PEMS Training Manual

Date Created: April 30, 2004

Last Updated: July 27, 2011

ABSTRACT

This document will provide a step-by-step series of instructions that will guide a user in the creation, definition, and maintenance of a project in the Project Environmental Measurement System (PEMS). It will provide general information on the flow of data through PEMS and is not intended to be all-inclusive regarding day-to-day operations.

ACRONYMS

CAS	Chemical Abstracts Service
EDD	Electronic data deliverable
FCOC	Field chain of custody
FCTM	Field Collection Task Map
FPMC	Flow Paced Monthly Composite
LCOC	Laboratory chain of custody
OREIS	Oak Ridge Environmental Information System
PEMS	Project Environmental Management System
PC	Personal computer
QC	Quality control
RTL	Ready to load
SAP	Sample Analysis Plan
SOW	Statement of Work

1.0 Introduction and Access

Opening an Account

To open and account on PEMS, please send an e-mail to pems@ettp.doe.gov.

After obtaining a PEMS account, the user should have access to at least one project. The user will be assigned a user id and a password. Users' passwords will change every 6 months. Support personnel will notify all users of their new passwords. Figure 1 displays the log in screen.

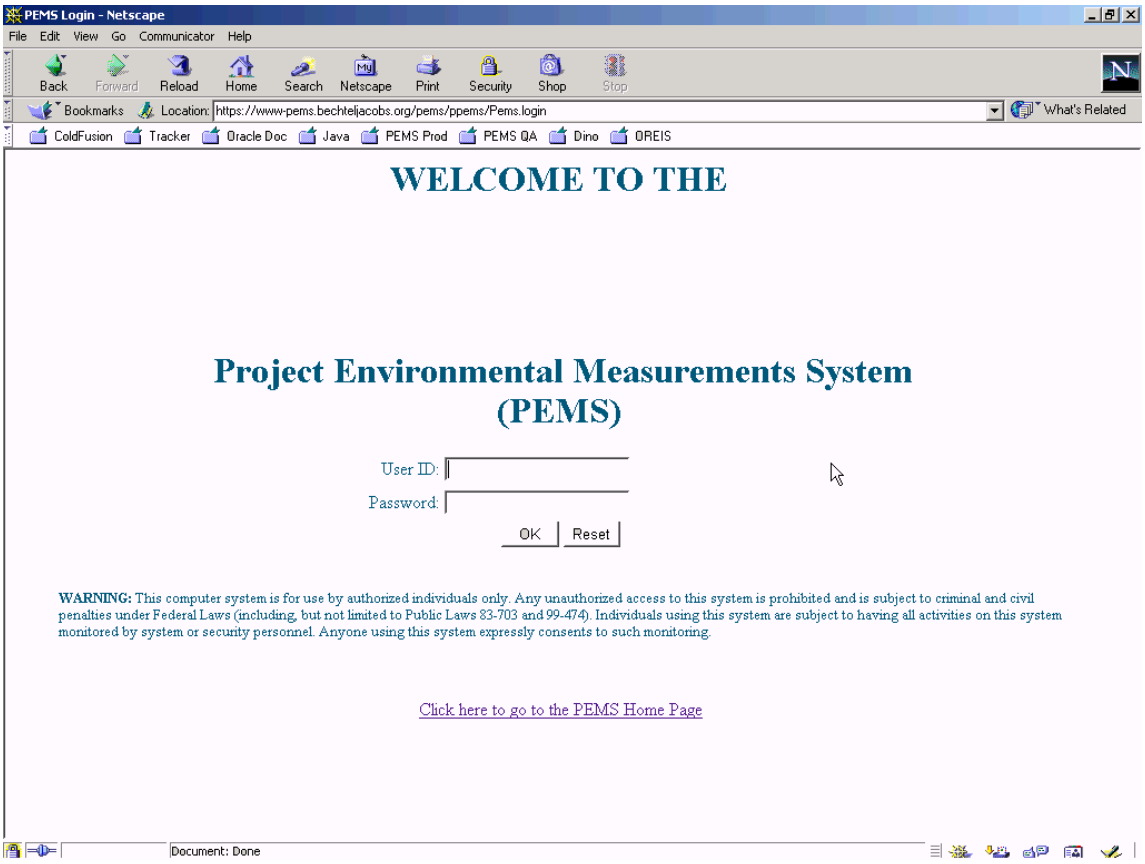


Figure 1

Users may access projects by project name or by SOW number as shown in Figure 2.

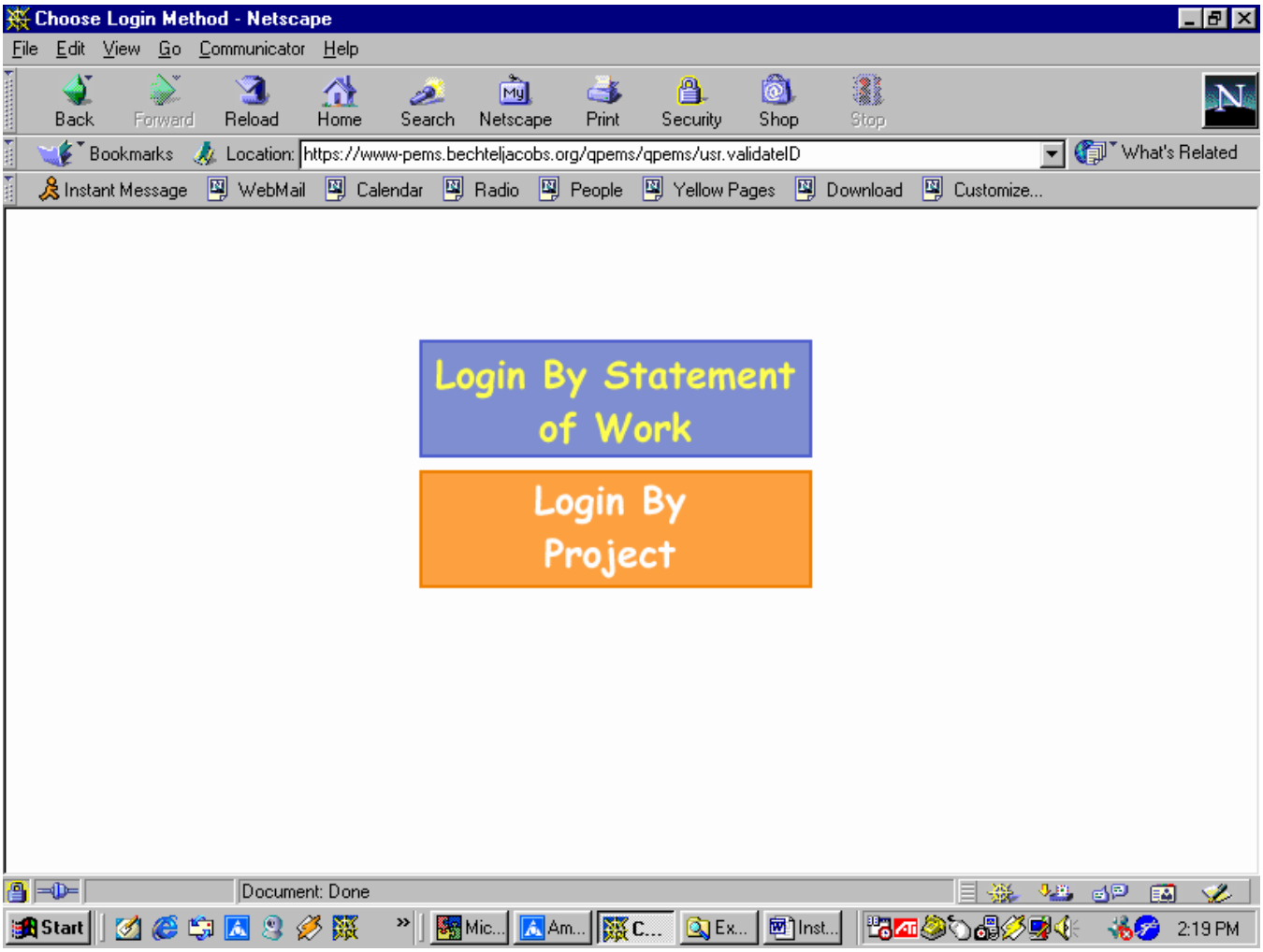


Figure 2

2.0 Global Administration

Information for all Users

Figure 3 shows the various lists that may be accessed by all users. These lists contain the valid values currently in PEMS and OREIS used for all projects. Additions may be made only to the 'Update' option. Applications that are assigned the 'Read Only' level will only display information for the specified field. A badged person, monitoring location, preservative, sampling device, user information, company, parameter analysis group, sample container type, and sampling procedure may be added. Other additions or changes must be made by a change request to the PEMS, OREIS, or Tracker support personnel.

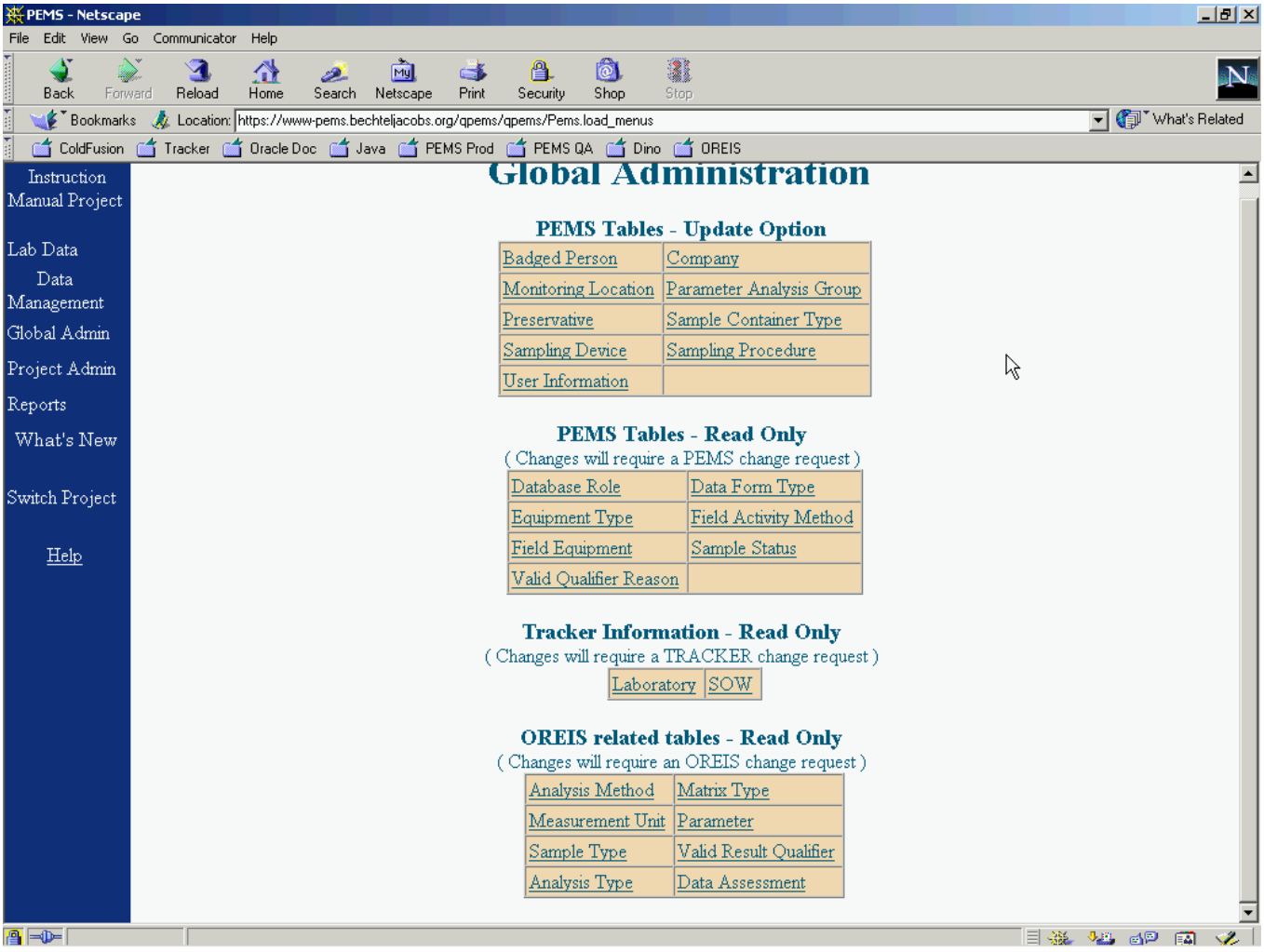


Figure 3

Some fields used in the PEMS system are shared by two other Environmental Information (EIM) systems. The applications listed under the 'OREIS related tables' header display information that is present in both the PEMS and OREIS systems. PEMS synchronizes the information for these fields twice daily to ensure that the latest information added to OREIS is included in PEMS. The applications listed under the 'Tracker Information' header list data that is present in the Tracker system. As this information is retrieved from Tracker when needed, there is no refresh for these fields.

The names of the applications and a brief summary of the information they display are presented in the following table.

Application Name	Purpose
Analysis Method	List of valid methods
Analysis Type	List of analysis types and descriptions
Badged Person	List of persons by badge number, user id and company
Company	List of companies managing projects
Data Assessment	List of the valid data assessment codes and their definitions
Database Role	List of roles the DBA can assign personnel
Data Form Type	List of forms that can be used. Default is FAS-01, field COC
Equipment Type	List of equipment that can be tracked to a low level
Field Activity Method	List of equipment that can be tracked to a low level
Field Equipment	List of equipment by id, includes active and inactive
Laboratory	List of laboratories that have or are performing work
Matrix Type	List of matrices by code
Measurement Unit	List of results units used by the laboratories
Monitoring Location	List of locations that can be assigned, can be by project
Parameter	List of analytes that can be requested by the project
Parameter Analysis Group	List of analyses that can be grouped together by container
Preservative	List of preservatives for containers
Sample Container Type	List of containers by size and material
Sample Status	List of statuses a sample can be assigned
Sample Type	List that defines quality control/assurance samples
Sampling Device	List of sampling devices that can be assigned
Sampling Procedure	List of sampling procedures that can be assigned and used
SOW	Tracker or non-Tracker statement of work number
User Information	User can update own information
Valid Qualifier Reason	List of validation qualifier reasons that can be assigned
Valid Result Qualifier	List of validation qualifiers that can be assigned to data

3.0 Project Administration

To be able to create a project, the user must have either the Project Data Coordinator role or the Sample Planner role. After logging in to the project, the user should select the Project Admin menu from the PEMS Main Menu, as indicated below in Figure 4.

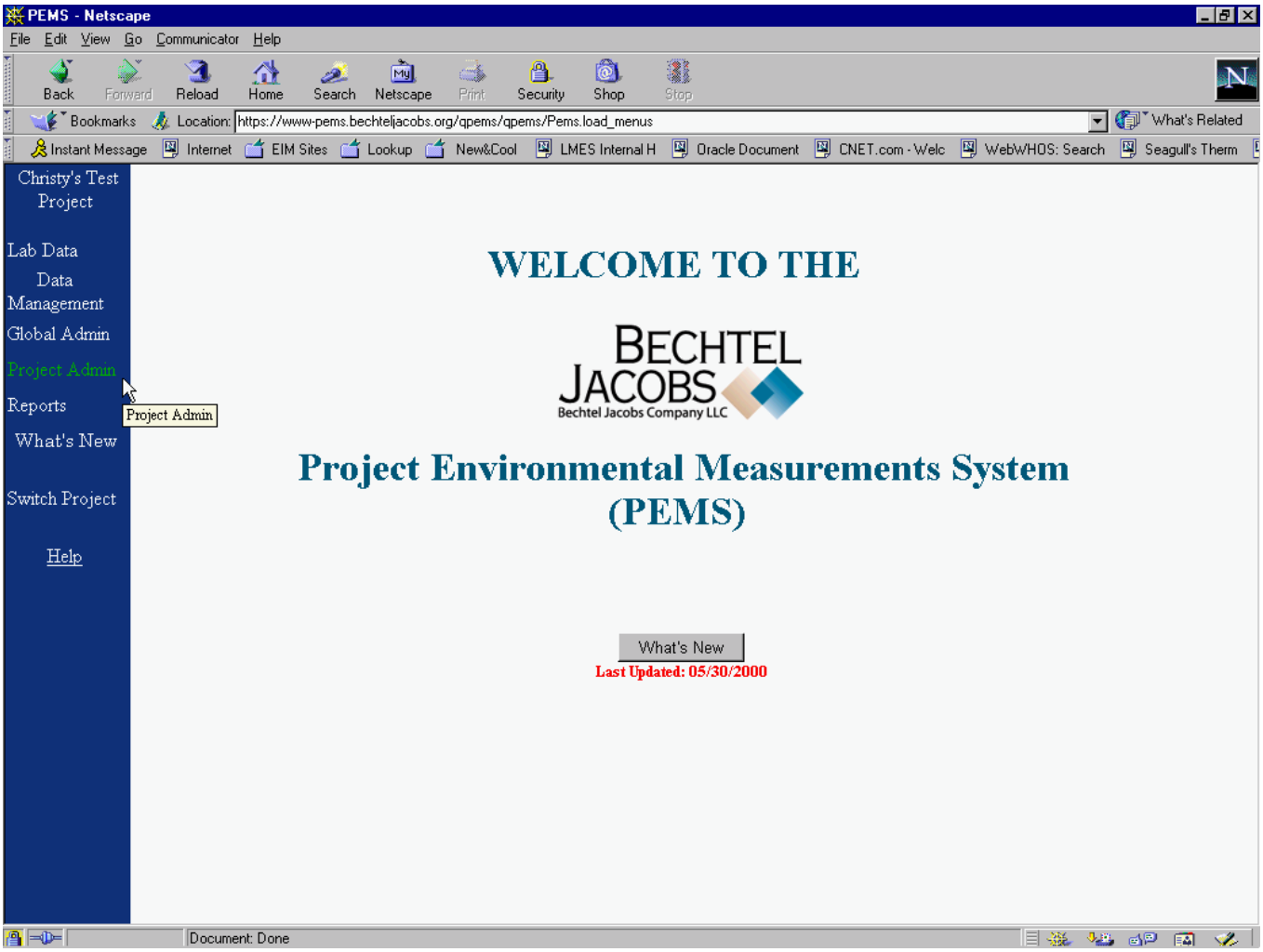


Figure 4

Once Project Admin has been selected from the PEMS Main Menu, the Project Administration menu is displayed as shown in Figure 5. This menu contains all of the applications used for defining a project. From this menu, the project's laboratories, sampling locations, statements of work, user access and other information can be entered. The menu is arranged in the order of the information that should be entered. For example, a project's sampling locations by task cannot be entered until the project's task code is entered.

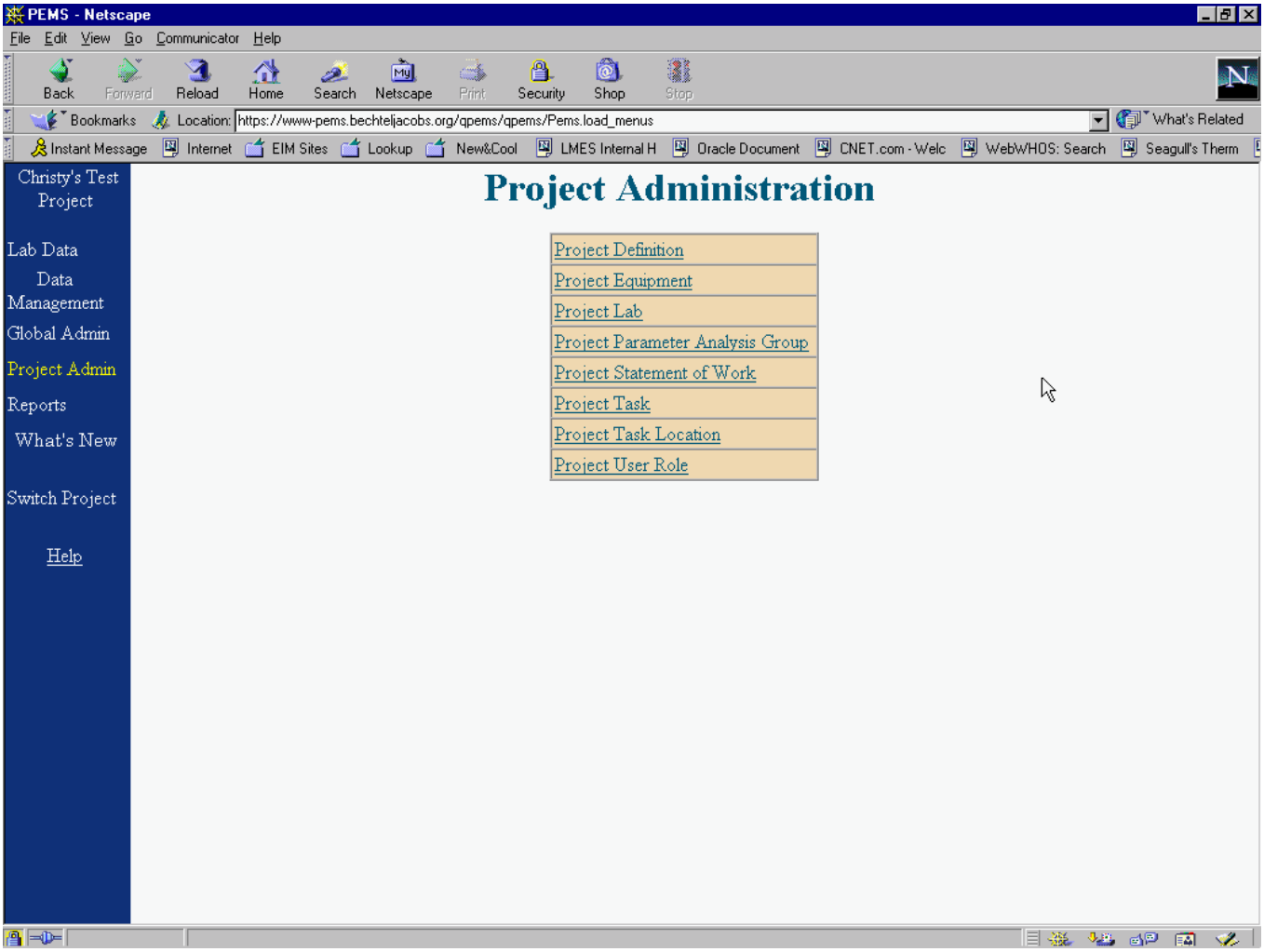


Figure 5

3.1 Project Definition

To create a new project, the user should select the Project Definition application from the Project Administration menu. This application will display the information for the current project as shown in Figure 6. Project information includes the project code, project name, project description, project manager and other data about the project.

At the top of the screen is a button labeled 'Add A Project'. Clicking on this button will begin the project creation process. The Project Definition screen will be re-displayed with the fields cleared for entry of a new project. Required fields are marked with arrows.

When all of the fields have been entered, click on the "Click Here To Continue" icon at the bottom of the screen. If the values are valid, a new project will be created, the user will be automatically switched to the new project and the next step of the project creation process will be displayed.

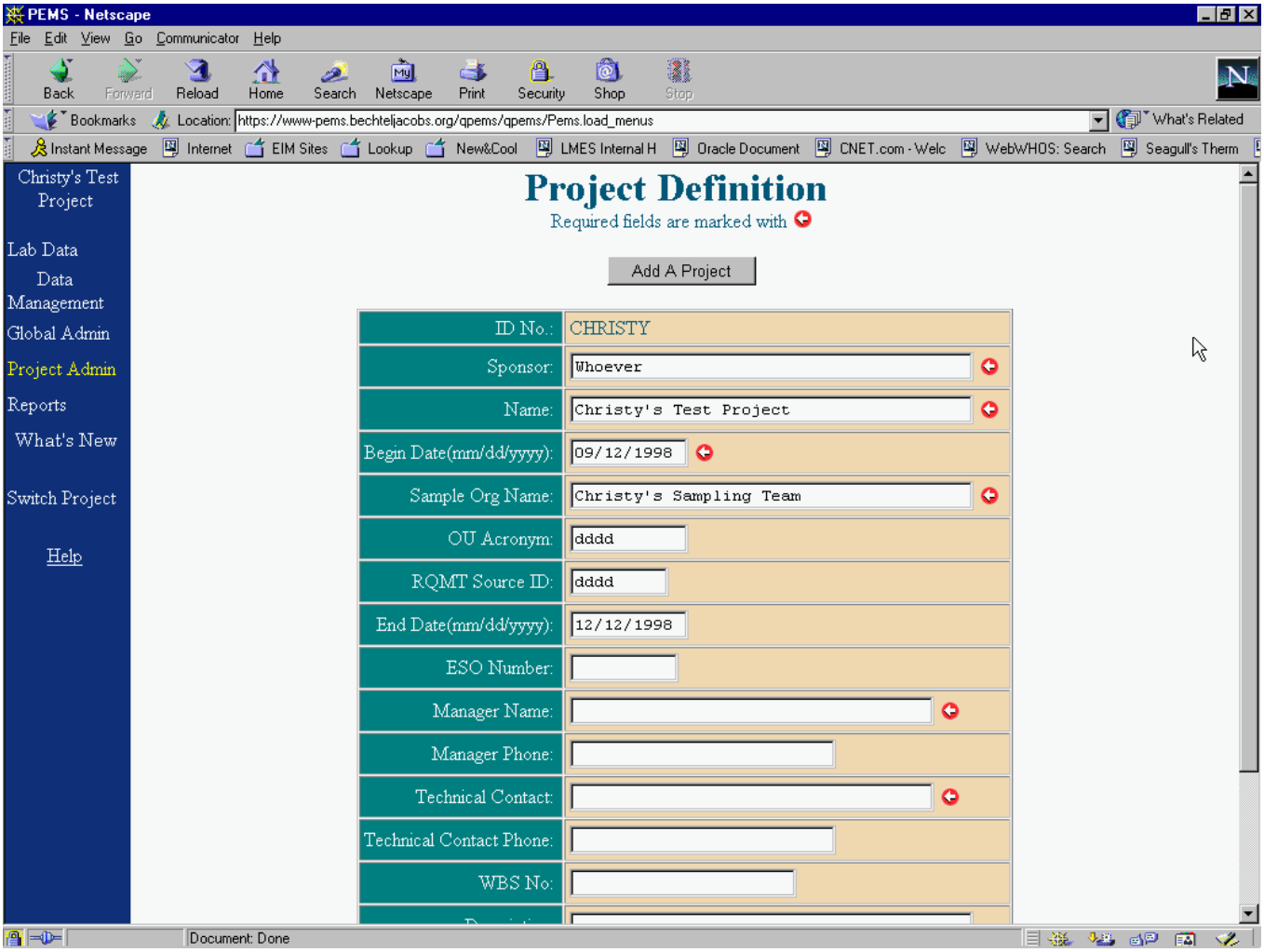


Figure 6

3.2 Project Equipment

Once the new project has been created, the user will be presented with the Project Equipment screen, as shown in Figure 7. This application is used to provide tracking for equipment that will be used by the project.

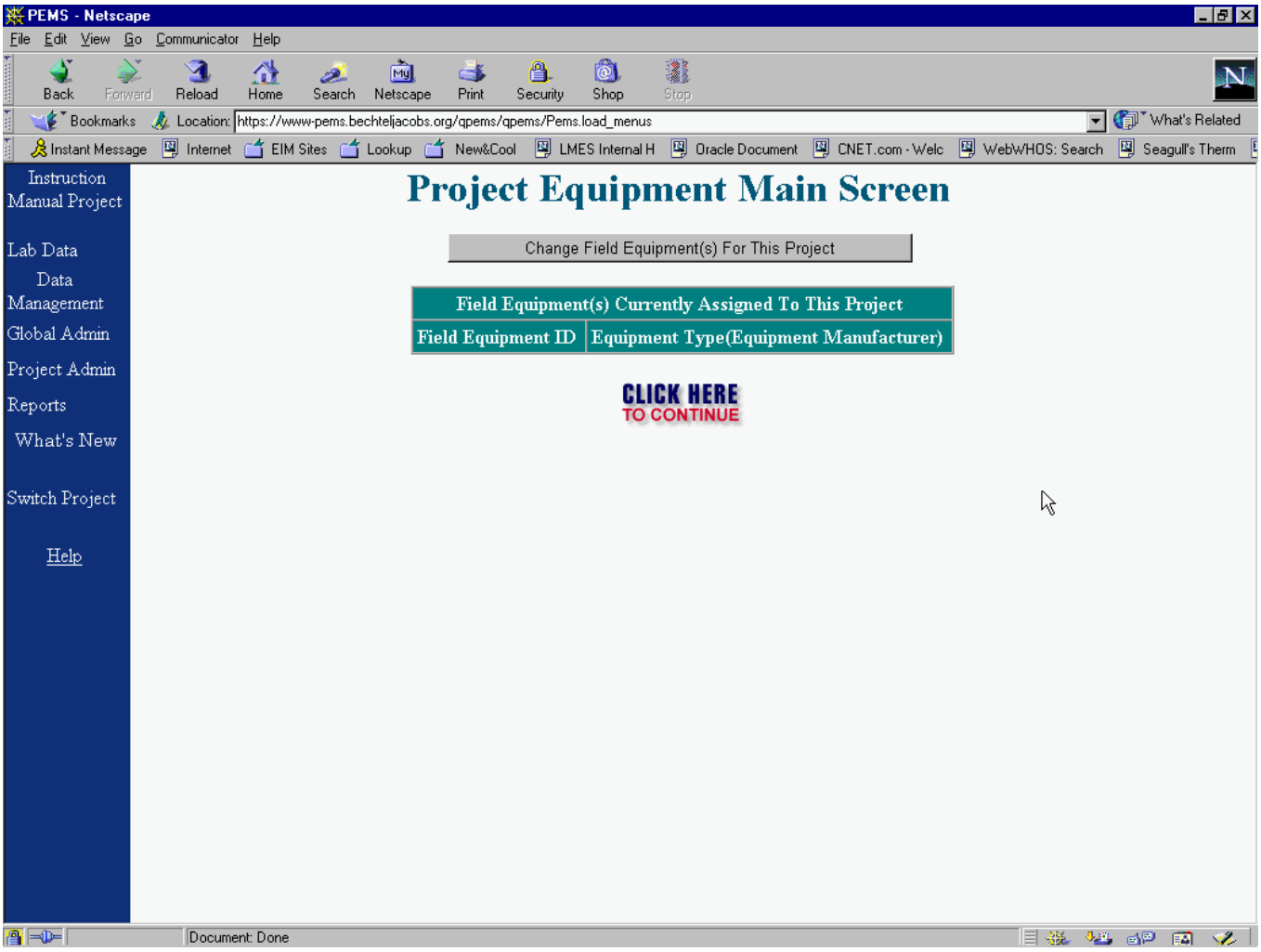


Figure 7

To assign equipment to the project, the user should click on the 'Change Field Equipment For This Project' button at the top of the screen. This button will display a list of all equipment that is currently available for the project to use (Figure 8). This list of equipment is maintained as part of the PEMS global support tables.

If the equipment to be used is not listed, the user must go to the Global Administration menu (from the PEMS Main Menu) and select the Project Equipment application to add the new equipment. Once the

equipment has been added to the appropriate support table, the user should return to the Project Equipment application to assign the equipment to the project.

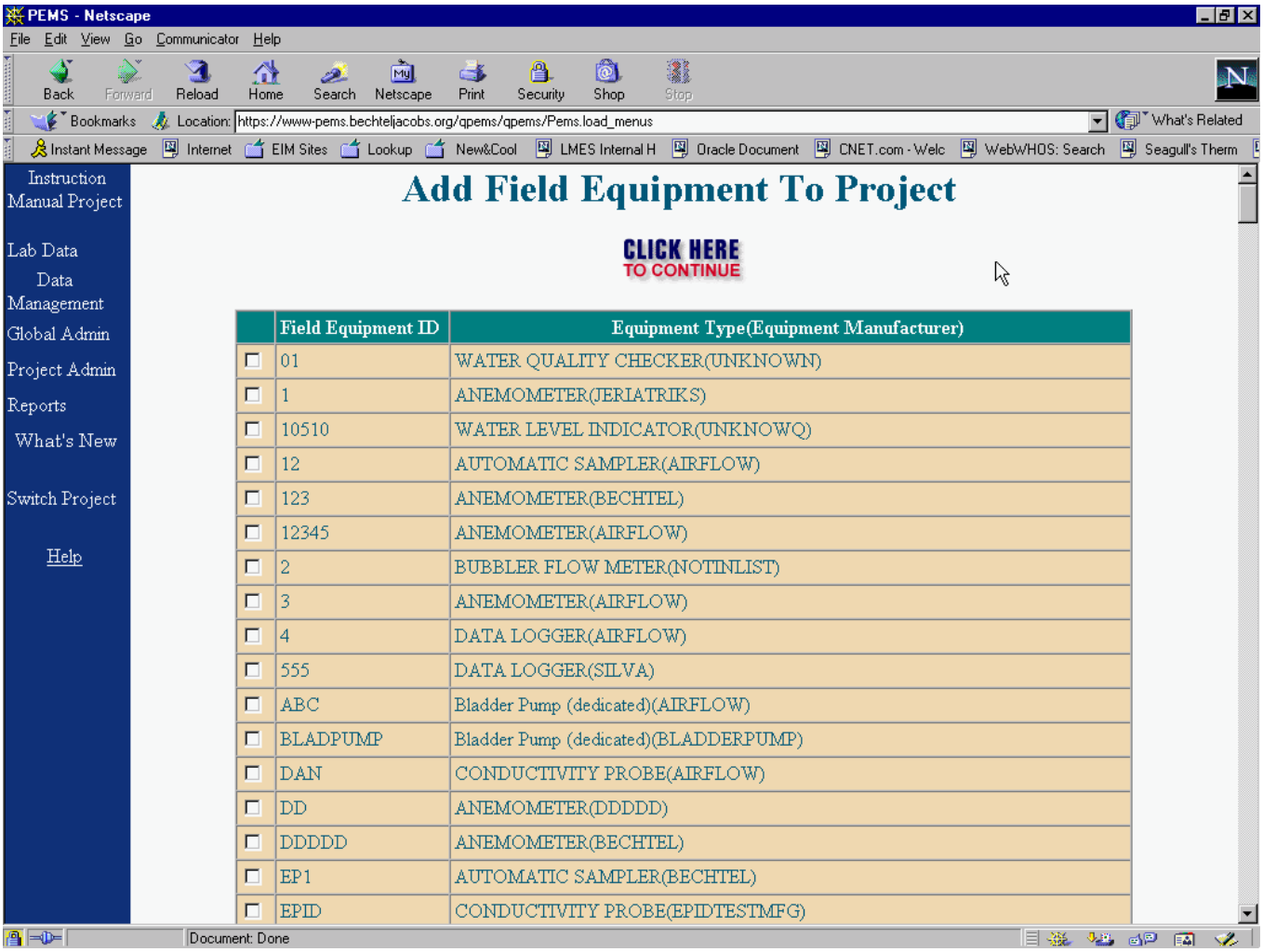


Figure 8

To add equipment to the project, the user should click on the check box beside each individual piece of equipment. When all of the equipment to be added has been selected, click on the 'Click Here To Continue' icon to return to the Project Equipment main screen (Figure 7). Equipment can be added to a project at any time and having project equipment defined is not mandatory for project creation.

3.3 Project Lab

To continue with the project creation process, click on the 'Click Here To Continue' icon from the Project Equipment main screen. This will display the Project Lab main screen (Figure 9). In the past, this application was used to assign laboratories to the project. Assignment of laboratories is now performed by the Project Statement of Work application. This application has been retained to give a quick way to display which laboratories are assigned to the project.

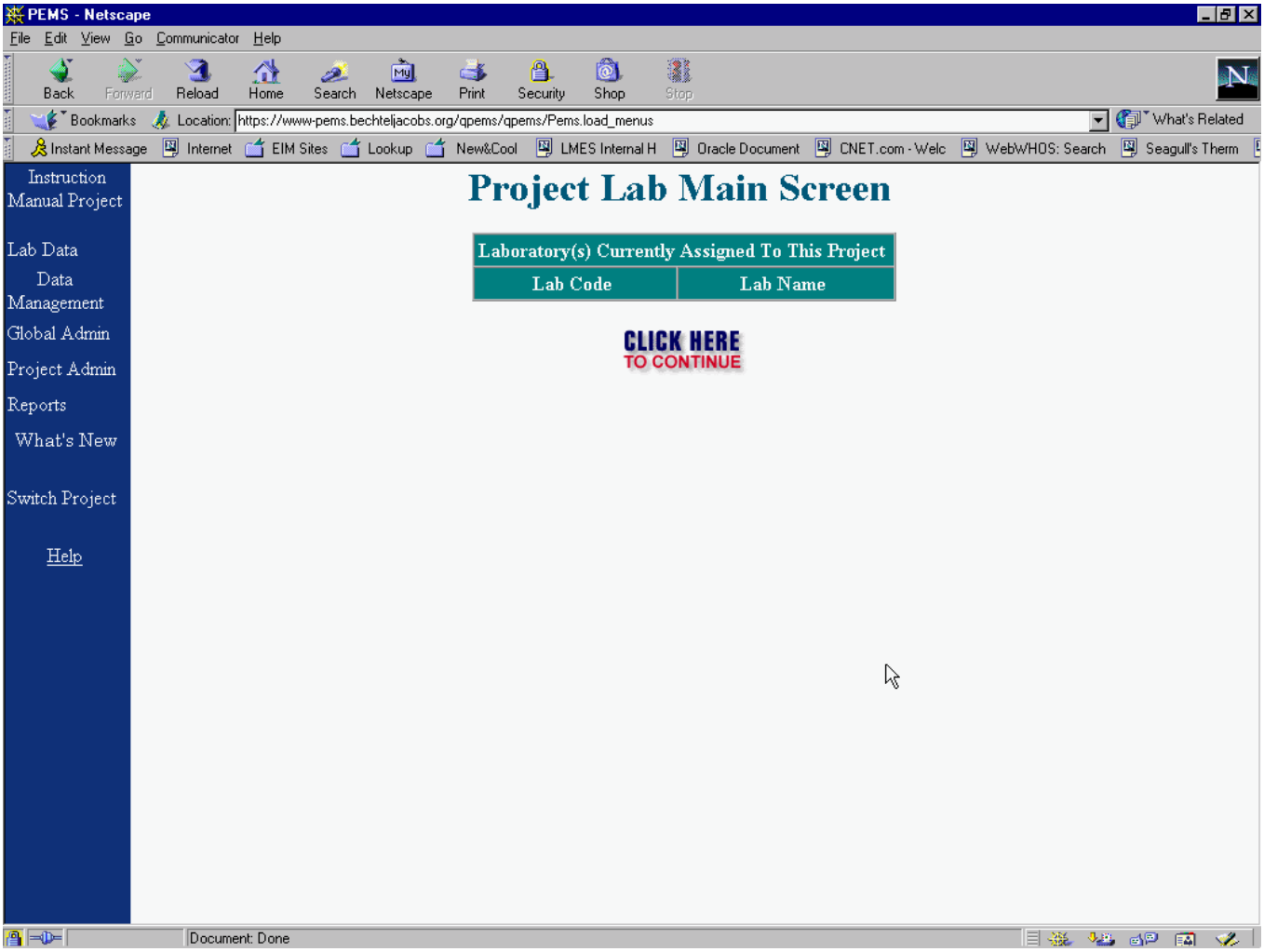


Figure 9

3.4 Project Parameter Analysis Group

To continue with the project creation process, the user should click on the 'Click Here To Continue' icon, which will display the Project Parameter Analysis Group main screen. This screen is shown in Figure 10.

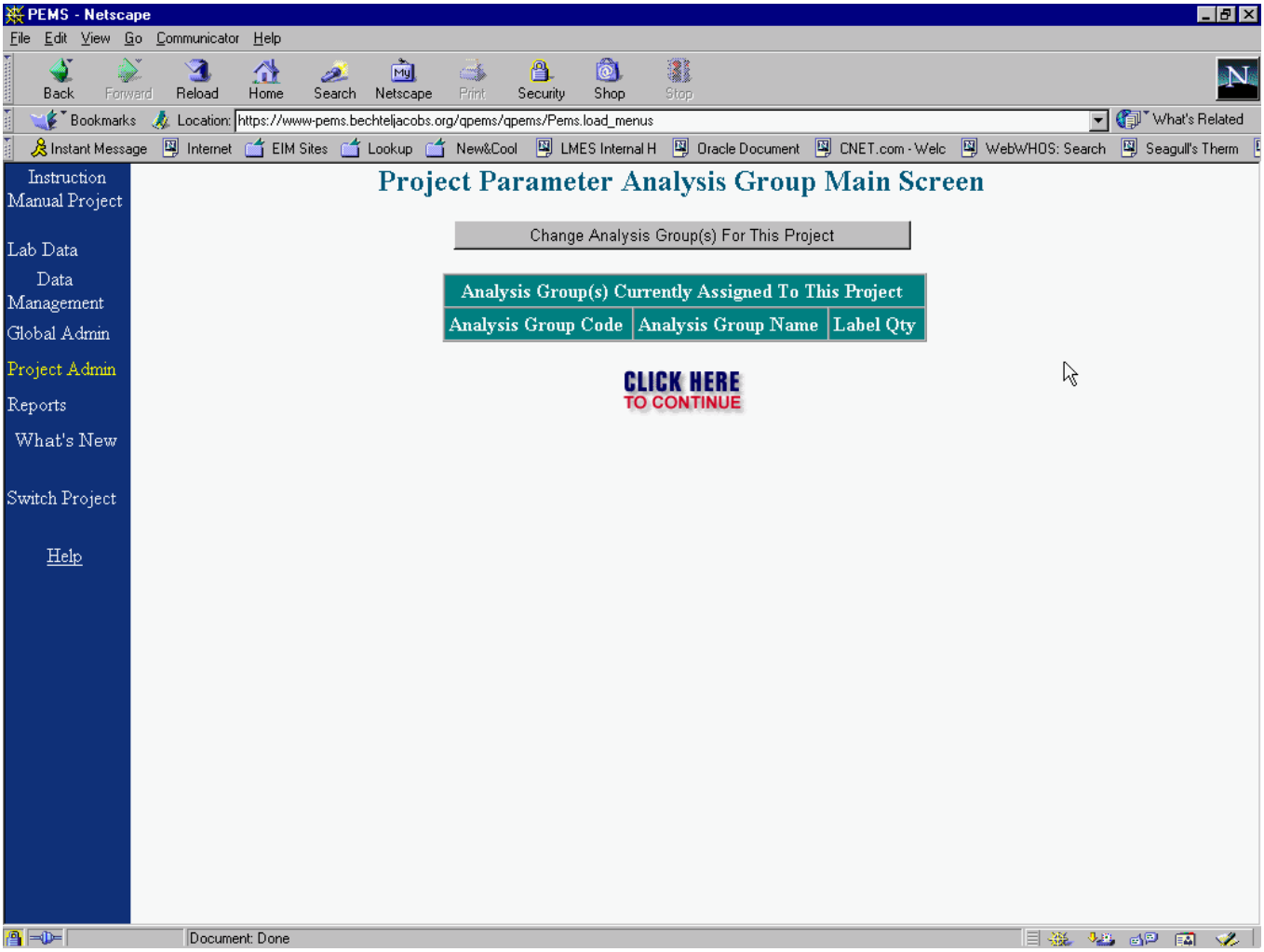


Figure 10

It is likely that a code representing the analyses that will be performed has already been created. To display the current list of analytical codes, the user should click on the 'Change Analysis Group(s) For This Project' button. Depending upon the configuration of the user's PC and/or the user's network, this screen may take additional time to load. PEMS will then display a new screen (see Figure 11) that shows all of the Analytical Group codes defined in the system.

To assign the analytical group code(s) to the project, click the check box next to the desired code and enter a value in the 'Label Qty' field for that code. The 'Label Qty' column is used for the printing of sample container labels. Entering a value of '3', for example, in this column would cause 3 sample container labels to be printed for any sample that is assigned to this analytical group. Depending upon the resolution of the user's PC, this column may be off-screen. If this is the case, a scroll bar will appear at the bottom of the browser window. Use this bar to display this field so that the label quantity can be specified.

Alternately, the user may use the Sample Analysis Plan (SAP) load to enter information. (See 4.1)
If the user has assigned some analytical group codes to the project and no longer wishes them to use them, the analytical group codes can be removed from the project using this screen. However, it is only possible to remove an analysis group code if that code has not been used in any sample plan. The analytical group code can be unassigned from the project by de-selecting the check box and removing the quantity value from this screen. Clicking the 'Click Here to Continue' icon will save the changes.

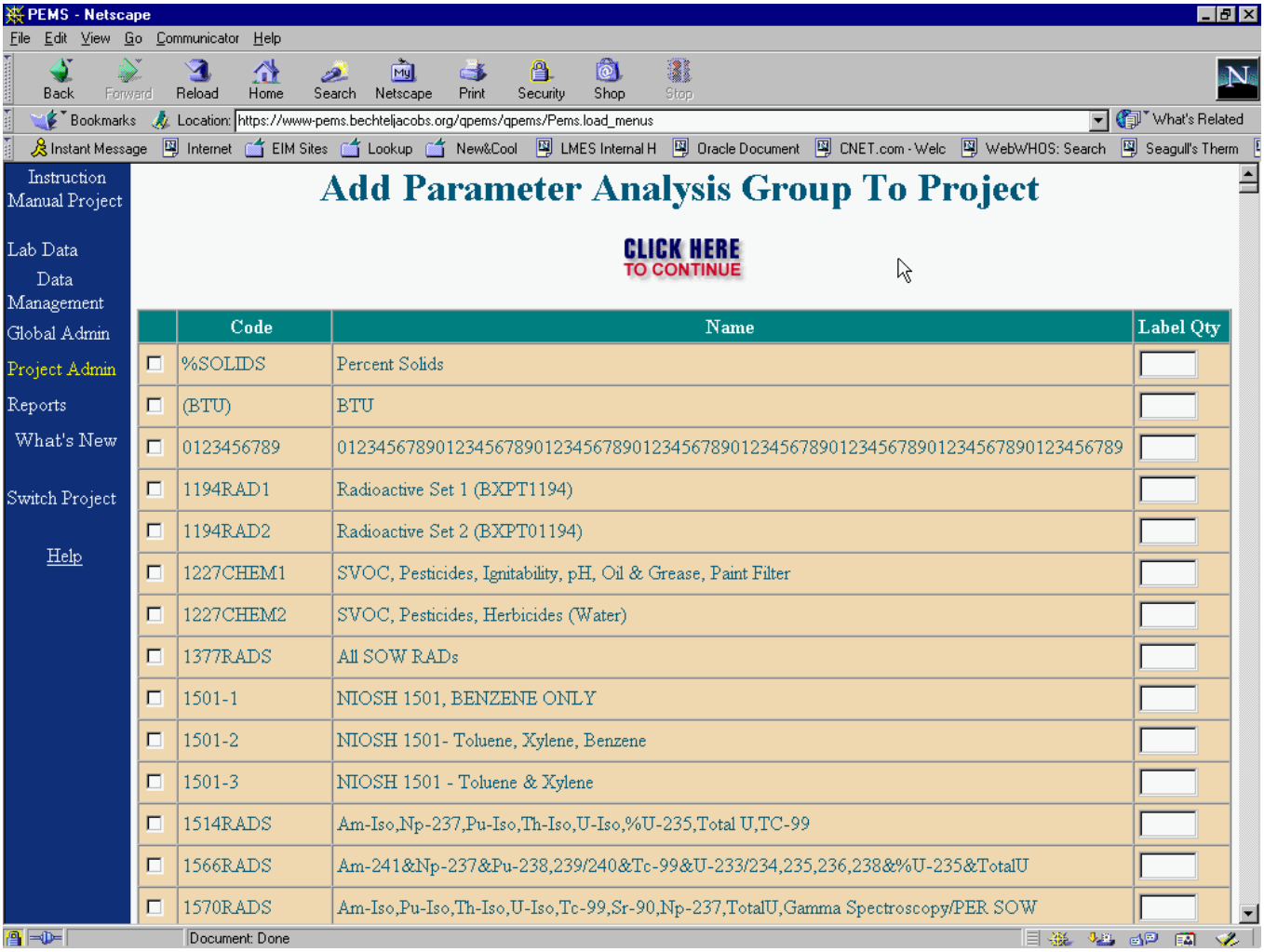


Figure 11

When the edit process is finished, click on the ‘Click Here To Continue’ icon to save the selections and assign the analytical groups to the current project. The display will return the current listing of analytical groups for the project. Additional analysis group codes can be added to the project later, if needed. To continue with project definition, click on the ‘Click Here To Continue’ icon, which will display the Project Statement of Work (SOW) application (see Figure 12).

3.5 Project Statement of Work

The Project SOW application creates statements of work that are issued to labs for the analysis performed on collected samples and edits information regarding these statements of work. The main screen of this application shows a drop-down list that currently has 2 options, 'Add New SOW From Tracker' and 'Add A SOW That Is Not In Tracker'. An existing SOW could be edited by selecting the SOW from the drop-down list and clicking on the 'View Details' button.

If the Tracker option is selected, then only SOWs that are defined in the Tracker system will be available for creation in PEMS. Selecting the SOW will also define the laboratory for that SOW and assign that laboratory to the project.

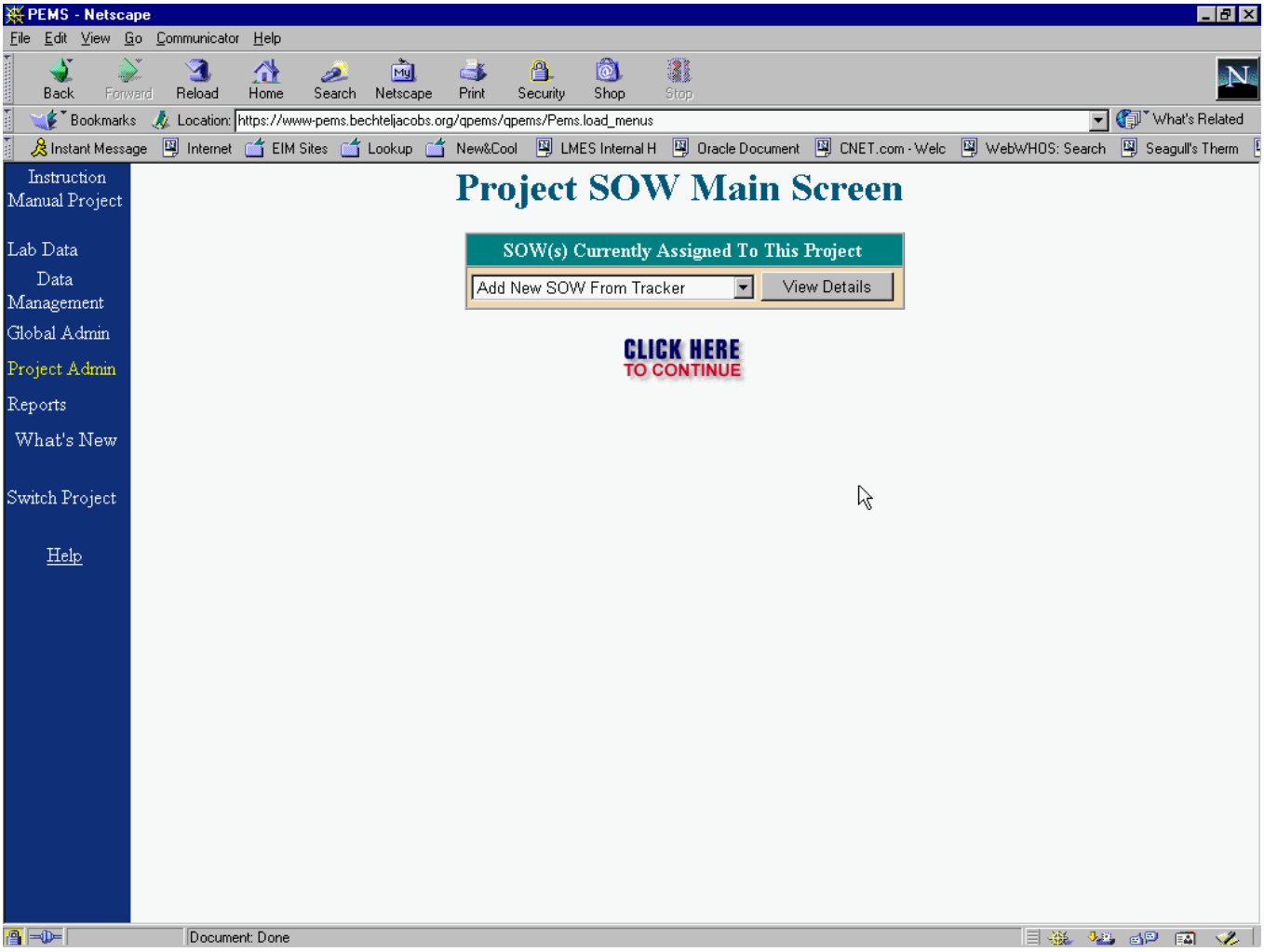


Figure 12

If the Tracker option is selected, a prompt will be displayed in a pop-up window (Figure 13) asking for the numeric SOW to add to PEMS. Enter a numeric value and click the 'OK' button.

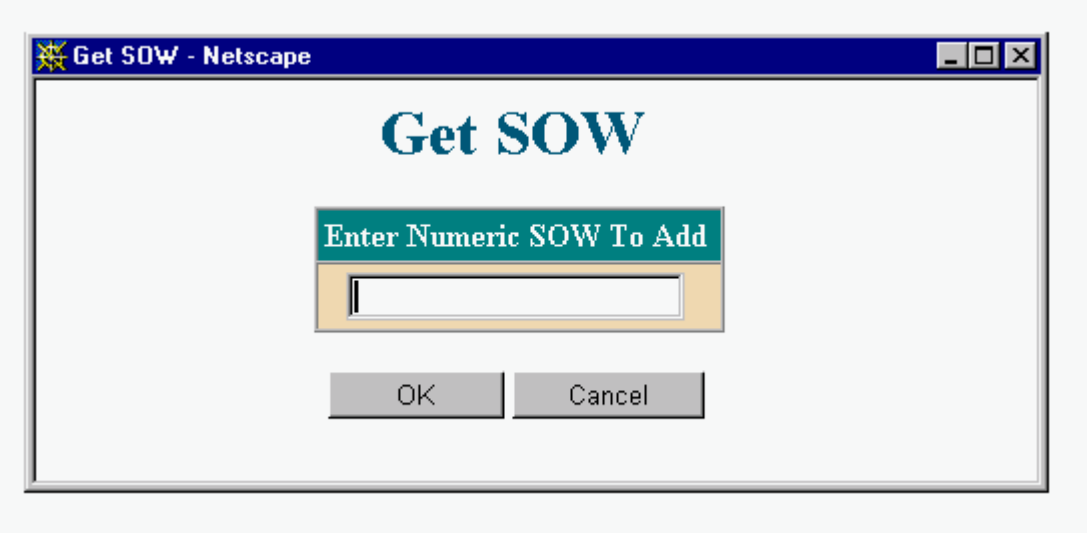


Figure 13

If there are multiple SOWs that match the numeric value entered, the pop-up window will be replaced with a second pop-up window (Figure 14) showing all of the statements of work that match that value in a drop-down list. Select the appropriate SOW and click on the 'OK' button to create the statement of work. If no statements of work match the entered numeric value, the drop-down list will be empty and the 'OK' button will not be present on the pop-up window. Click on the 'Back' button to try a different numeric value.

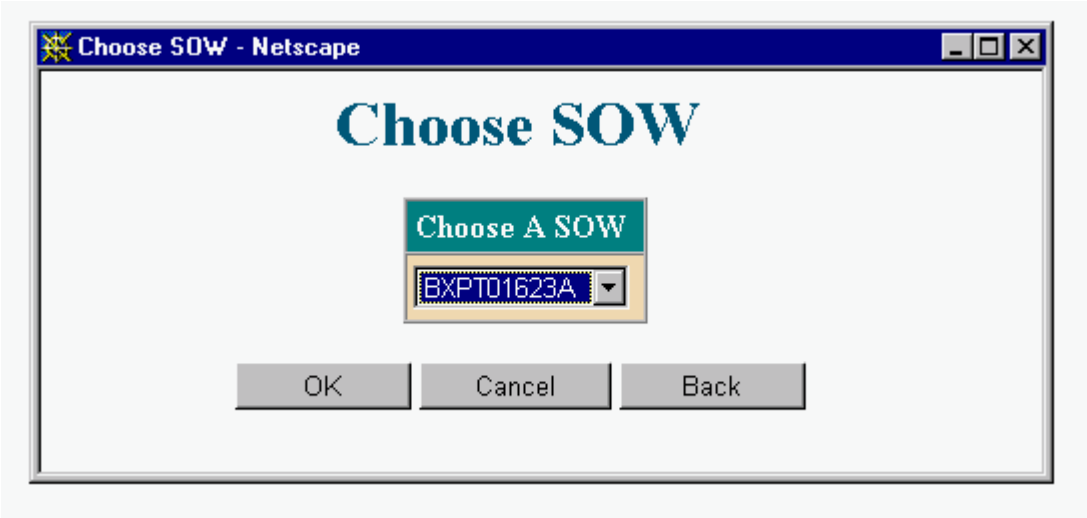


Figure 14

If the entered numeric value matches only one SOW in the Tracker system, the SOW will be created and the lab will be assigned to the project. If the lab associated with the entered SOW does not exist in PEMS, the lab code and lab name will be retrieved from Tracker and inserted into PEMS. An edit screen will then be displayed so that the user can enter additional information about the SOW. This

screen is the same screen that will be displayed if the user edits an existing SOW. On creation of a new Tracker SOW, the appearance of this edit screen may vary depending on certain conditions. If the lab associated with the Tracker SOW does not have a PEMS login account, an informational message will also be displayed along with the edit screen, as shown in Figure 15.

This message will instruct the user that, though the SOW has been created, the lab will not be able to load analytical results because they do not have a PEMS account. It will give instruction to the user on how the lab can acquire an account by linking to information on the PEMS Home Page. The user should direct the laboratory to request a PEMS account following the procedures outlined in the "Getting Started" section of the PEMS Home Page. This message is only displayed at creation time of the SOW. It will not be displayed if the SOW is edited later.

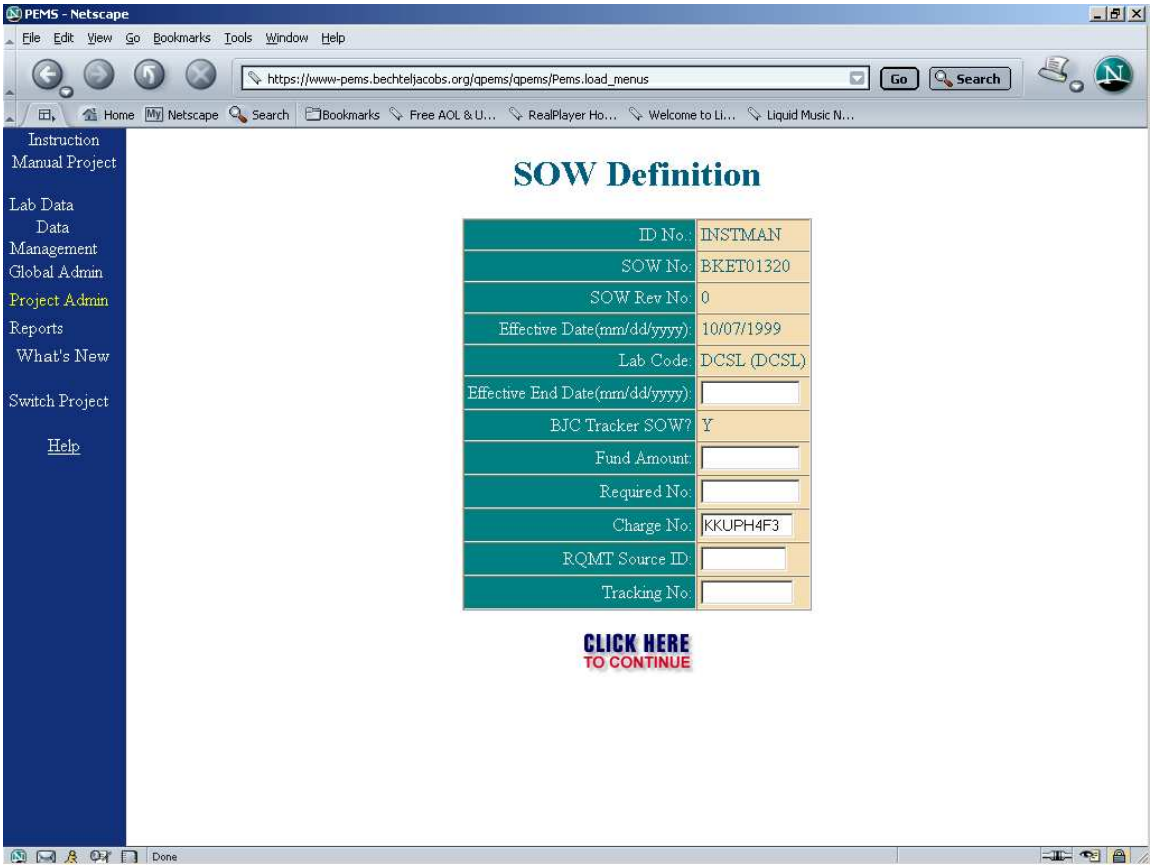


Figure 15

None of the fields on the additional information screen are required. This information may be added or changed at the user's discretion. When finished, clicking on the 'Click Here to Continue' icon will return the user to the main screen of the SOW application where more SOWs may be created, if needed.

If Tracker will not be used to define the SOWs, the user will be able to specify any laboratory defined in the PEMS system and any SOW number. In this case, the format of the SOW number need not follow the Tracker specification for SOWs.

Upon selecting this option, a screen will be displayed that prompts the user for the SOW number and shows a drop-down list containing all of the labs currently defined in PEMS (See Figure 16). The lab must be present in the PEMS system to be selected.

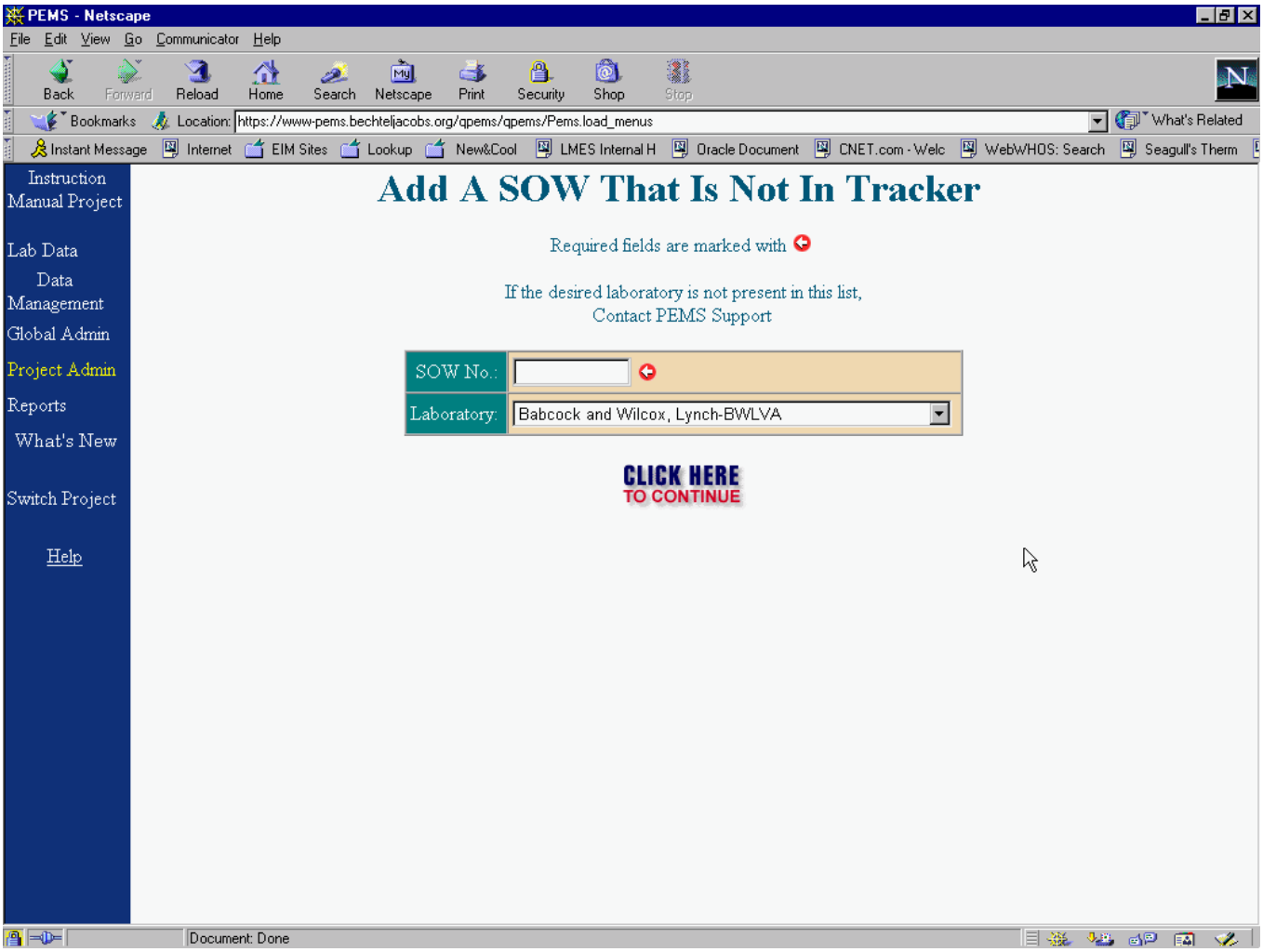


Figure 16

After entering the SOW number and selecting the lab, the same additional edit screen will be displayed as in the Tracker SOW. As in the Tracker SOW, if that lab does not have a login account for the PEMS system, a message will be displayed providing information on acquiring a PEMS account. When finished with data entry, clicking on the 'Click Here to Continue' icon will return the user to the main screen of the SOW application.

3.6 Project Task

From the main screen of the SOW application, clicking on the 'Click Here to Continue' icon will continue the project definition process by the displaying the Project Task application. The main screen of this application is shown in Figure 17. Since this is a new project, there are no tasks defined.

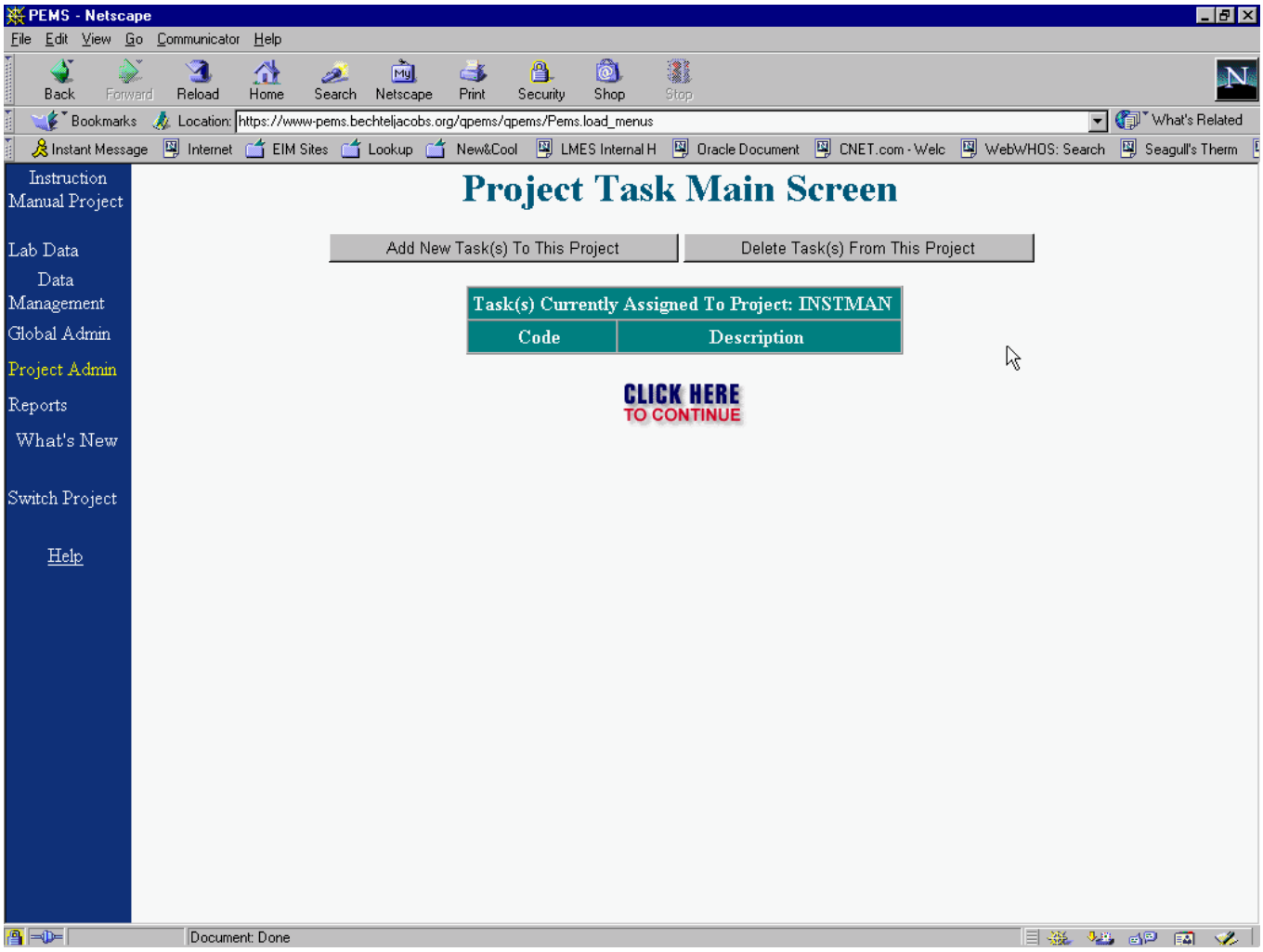


Figure 17

A project task is a 5-character user-defined code that describes a level of activity in the project. This activity can be any sampling activity that the user wishes to model in PEMS. For example, it could be the sampling activity for all groundwater wells for the entire year. It could also represent sampling activity for one well for one occurrence. The definition of the task is completely at the user's discretion.

Two buttons will be displayed at the top of this screen. The first one, 'Add New Task(s) To This Project', will display a task definition screen as shown in Figure 18.

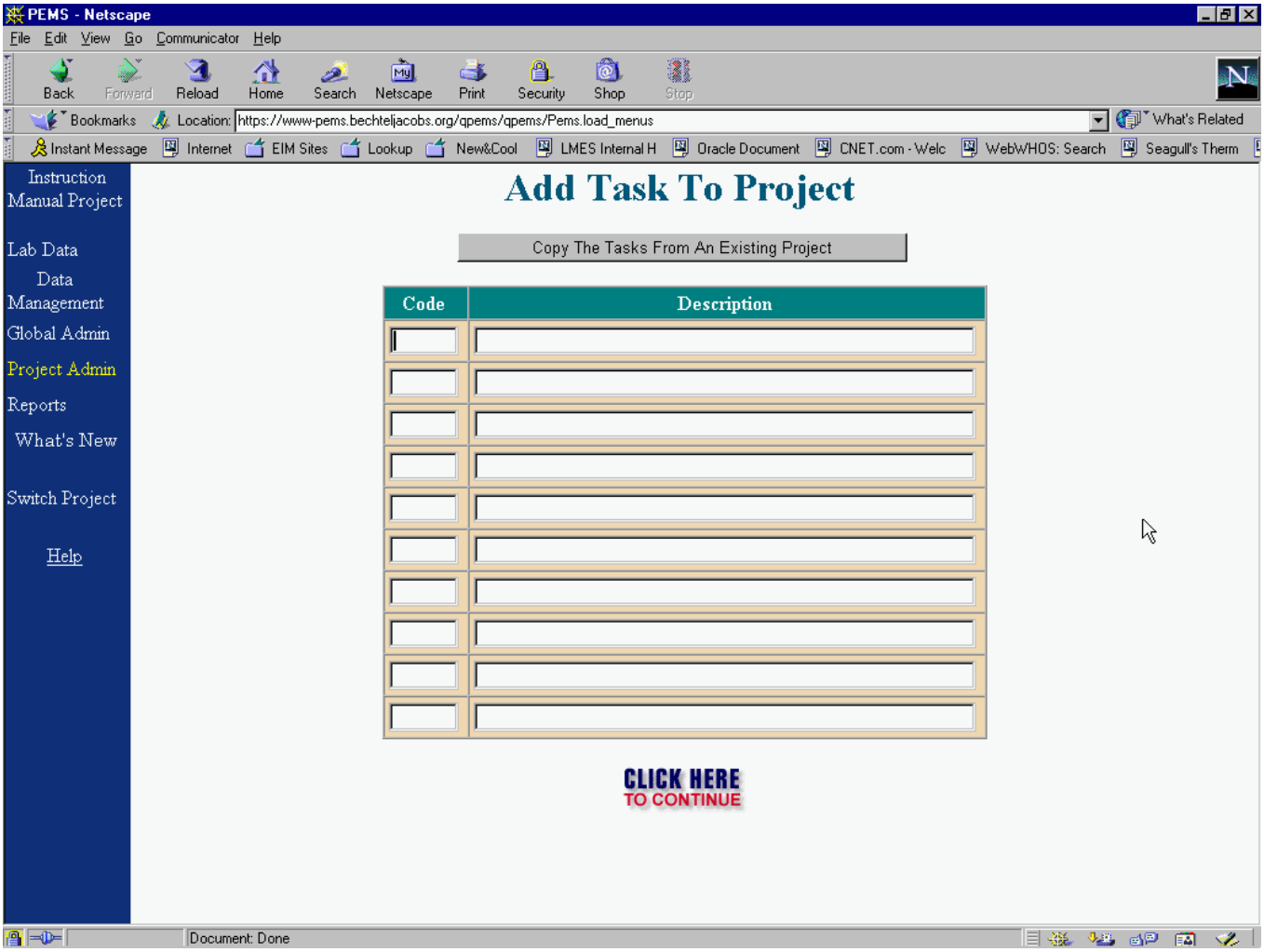


Figure 18

The task definition screen allows for the creation of new tasks for the project. The user should enter the task code and a description of the activity represented by this task. The entered task code must be unique for the project. When data entry is completed, click on the 'Click Here to Continue' icon to return to the main screen of this application.

A button, labeled 'Copy The Tasks From An Existing Project' is displayed at the top of the Add Project Task screen. This button permits data entry by allowing the user to copy the tasks from another project. Some users create new projects every year to reflect that year's activity, but will be performing the same tasks in that new project as used in a previous project. Clicking on the button will display a list of all of the projects that the user has privileges to access (See Figure 19). This screen is very similar to the 'Login by Project' screen that is displayed during the login process.

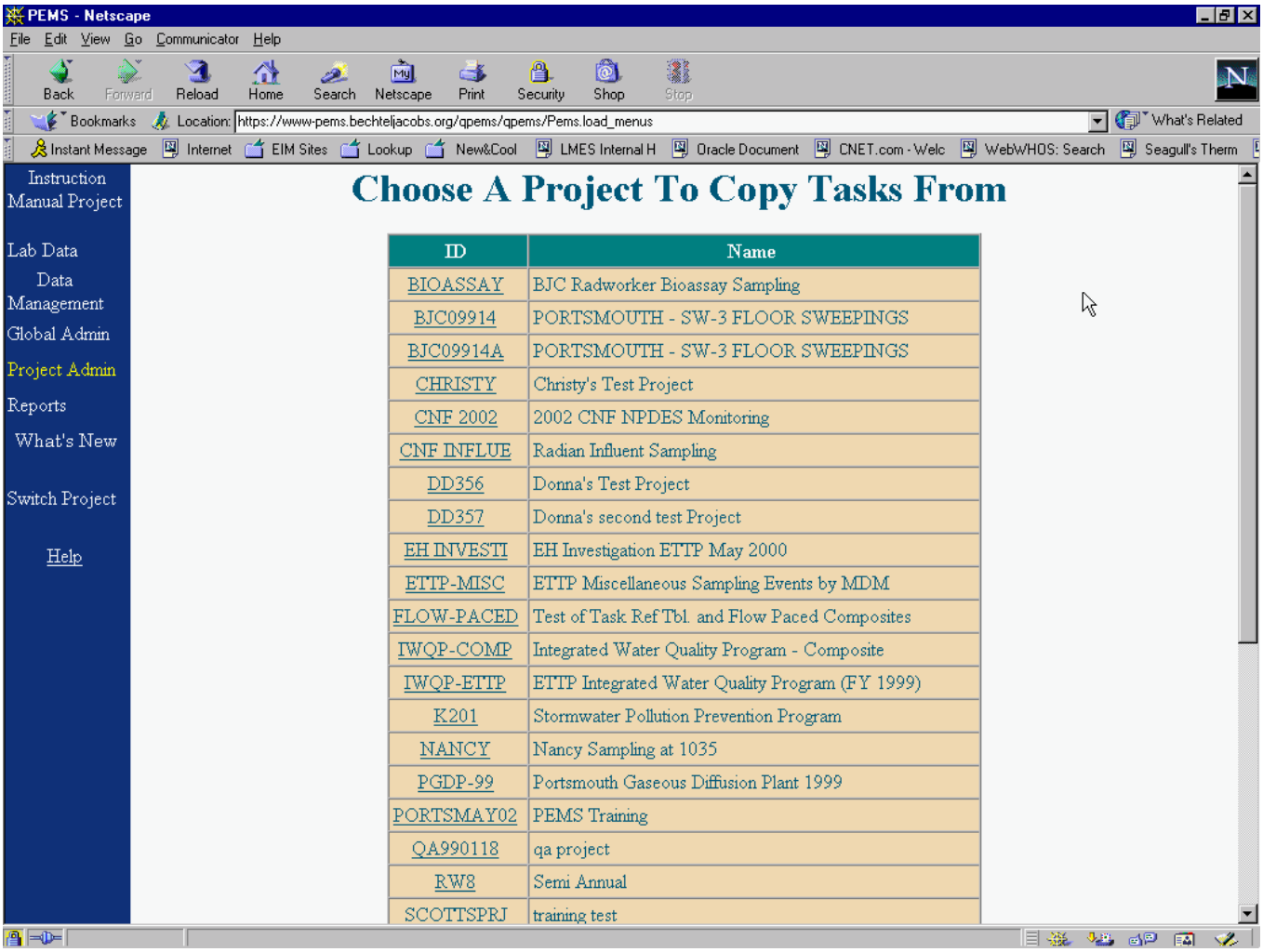


Figure 19

Clicking on the project code will display an intermediate screen showing all of the tasks defined for the selected project (See Figure 20). A check box is displayed beside each task code. To copy the task to the new project, click on the check box to select the code. The user may select any or all of the task codes to transfer them to the new project. Clicking on the 'OK' button will copy the selected tasks and return the display to the main screen of the Project Task application.

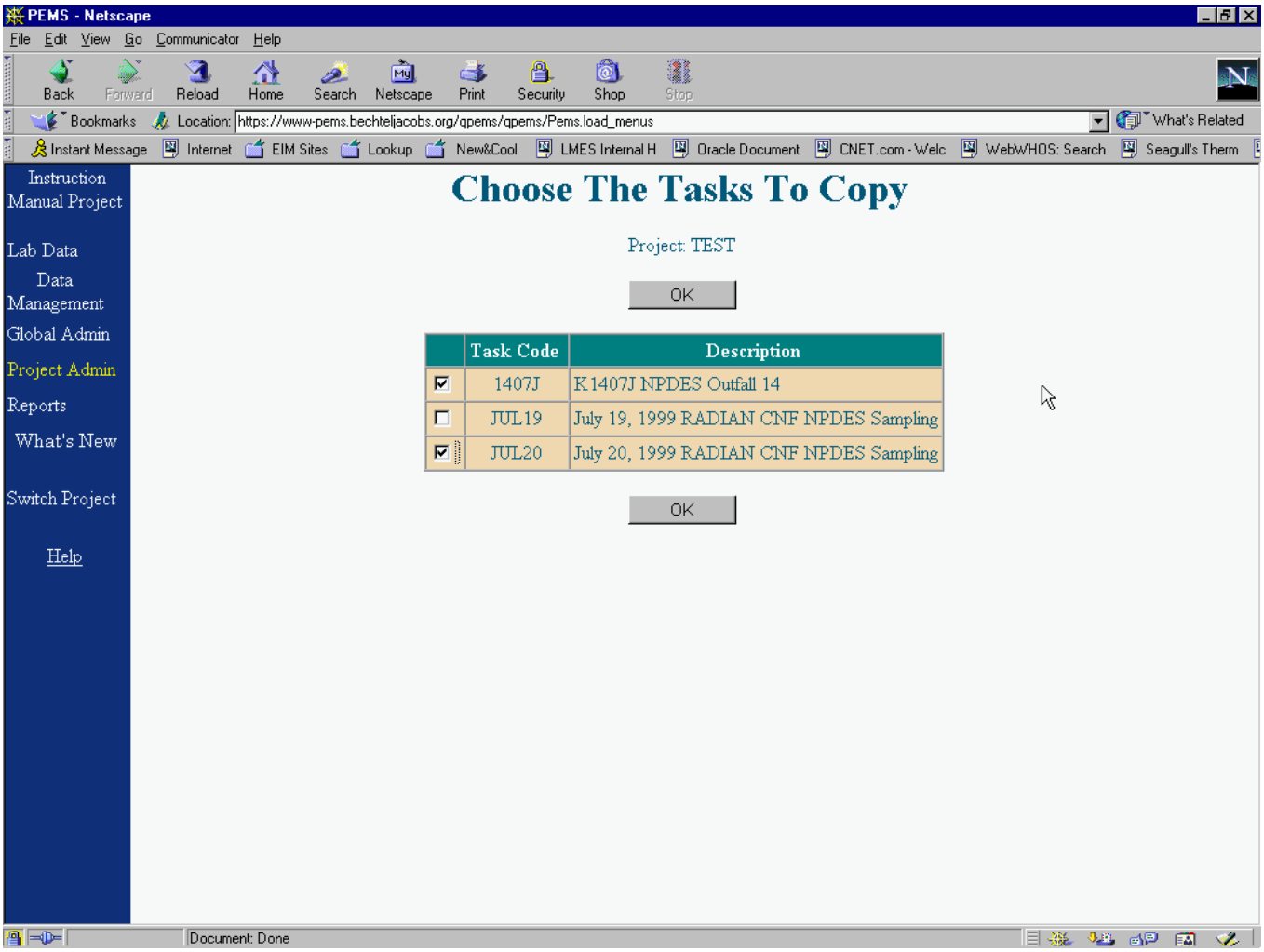


Figure 20

The second button on Figure 21, 'Delete Task(s) From This Project', allows the user to remove tasks from the project. To delete a task, click on the check box next to the task code and definition to select it. Then, click on the 'Click Here to Continue' icon to remove the task from the project. The display will return to the main screen of the application. Please note that the 'Delete Task' function will not allow the deletion of a task that is currently in use by the project on existing documentation (FCOC, LCOC).

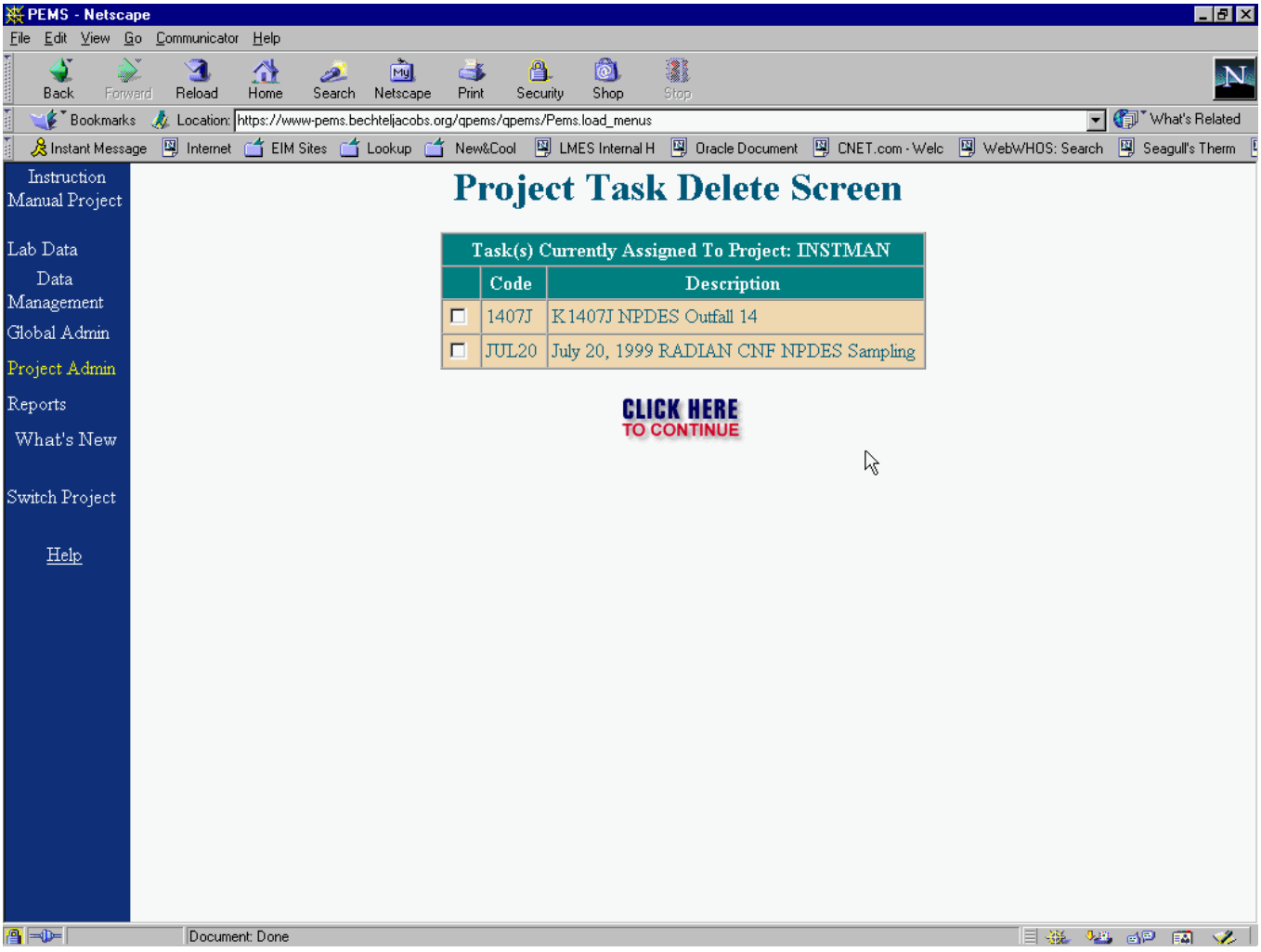


Figure 21

3.7 Project Task Location

Clicking on the 'Click Here to Continue' icon from the Project Task main screen will display the final step of the project definition process. This step is the Project Task Location application, which is displayed in Figure 22. Since this is a new project, there are no locations assigned to the tasks created in the previous step.

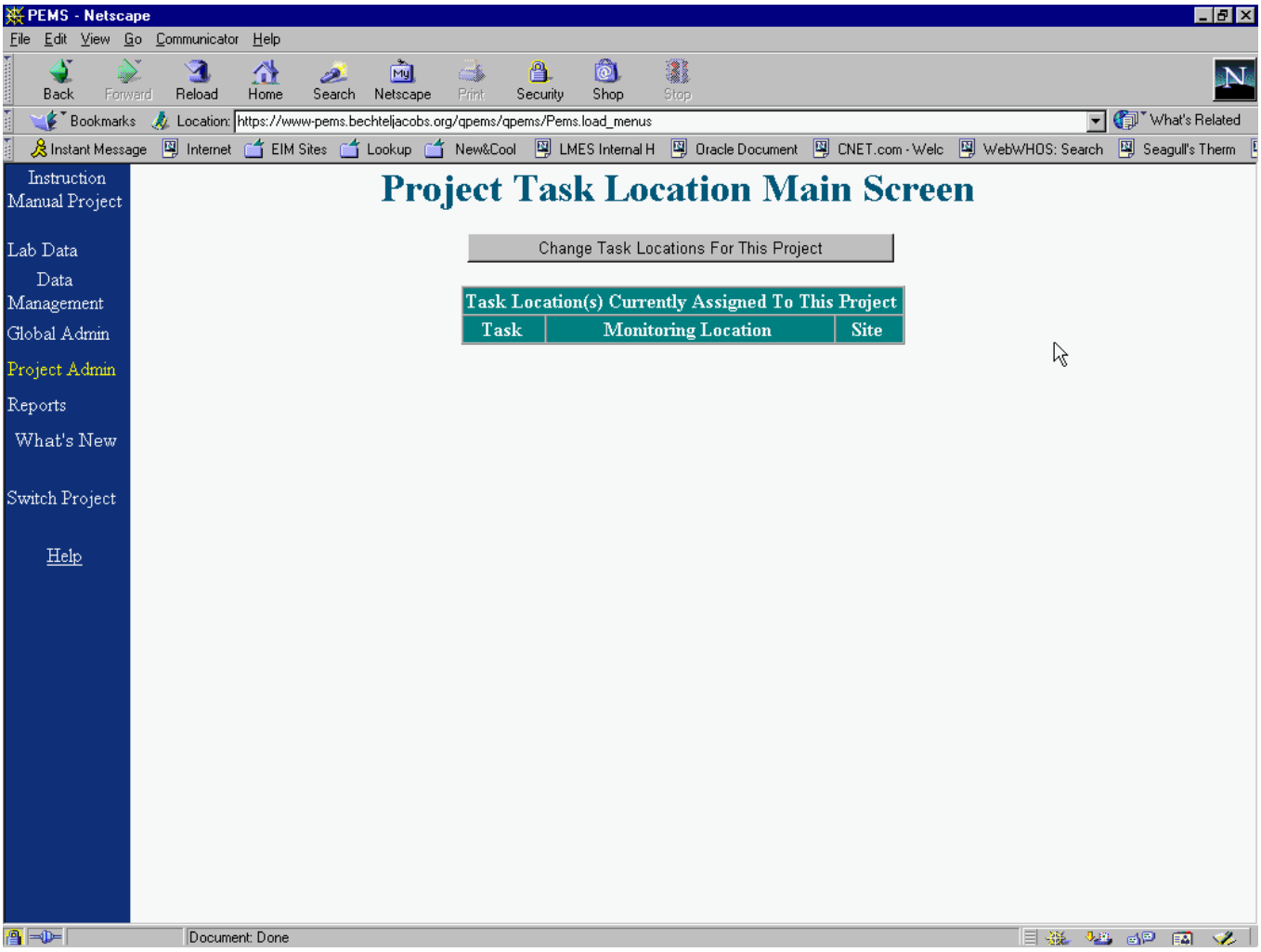


Figure 22

To assign locations to the tasks defined, click on the 'Change Task Locations For This Project' button. This will display an intermediate screen that shows two drop-down lists. The first list contains all of the tasks defined for the project. The second list is a group selector for all of the locations defined in the PEMS system. This second list is used to limit the locations displayed to those assigned to a specific site to speed data entry. For multi-site projects, an option is present to show all locations. This option is the default.

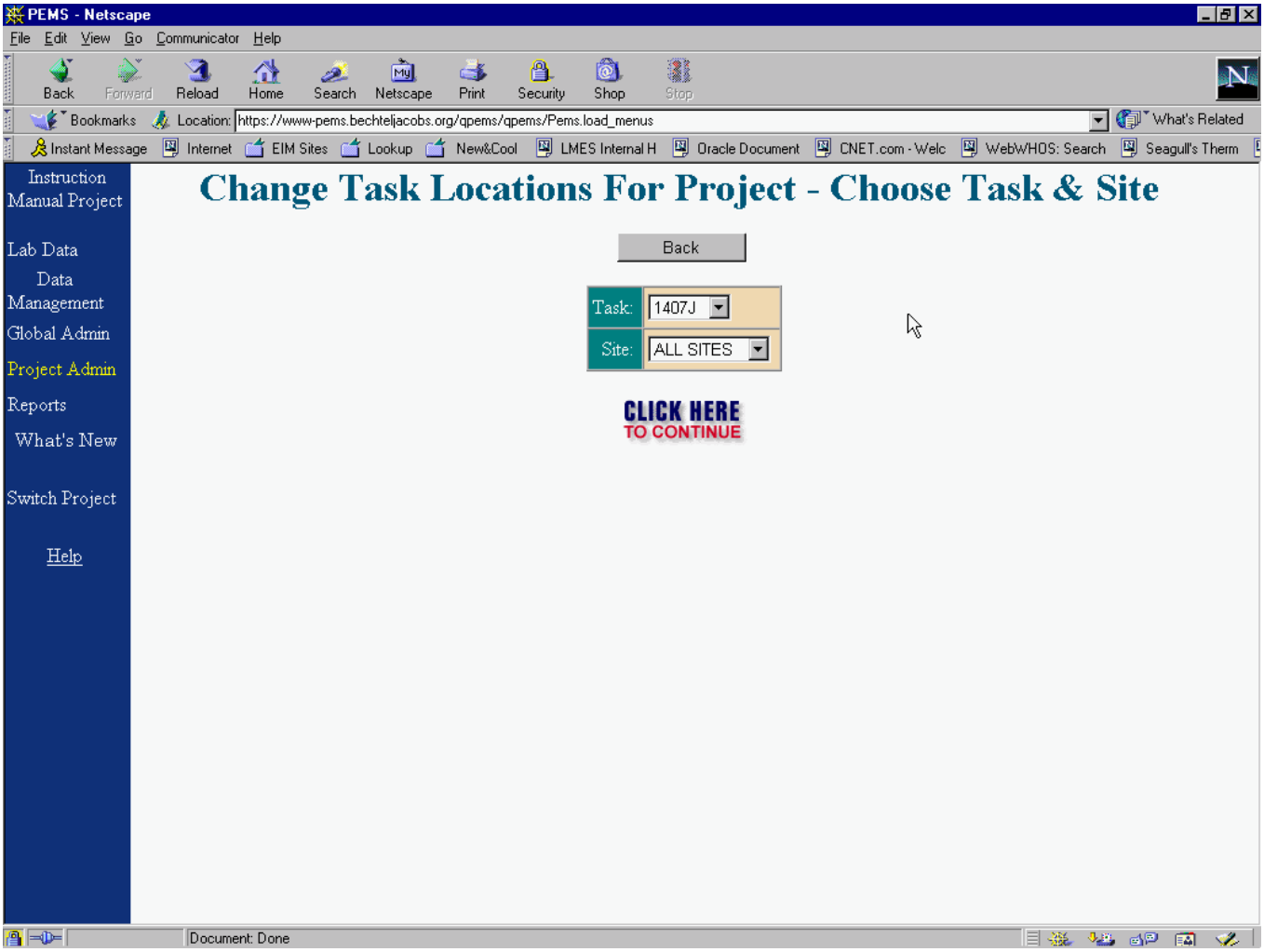


Figure 23

To assign locations to the tasks, select the appropriate task and site and click on the 'Click Here to Continue' icon. This will select the task and display a list of all locations available for the select site option (See Figure 24).

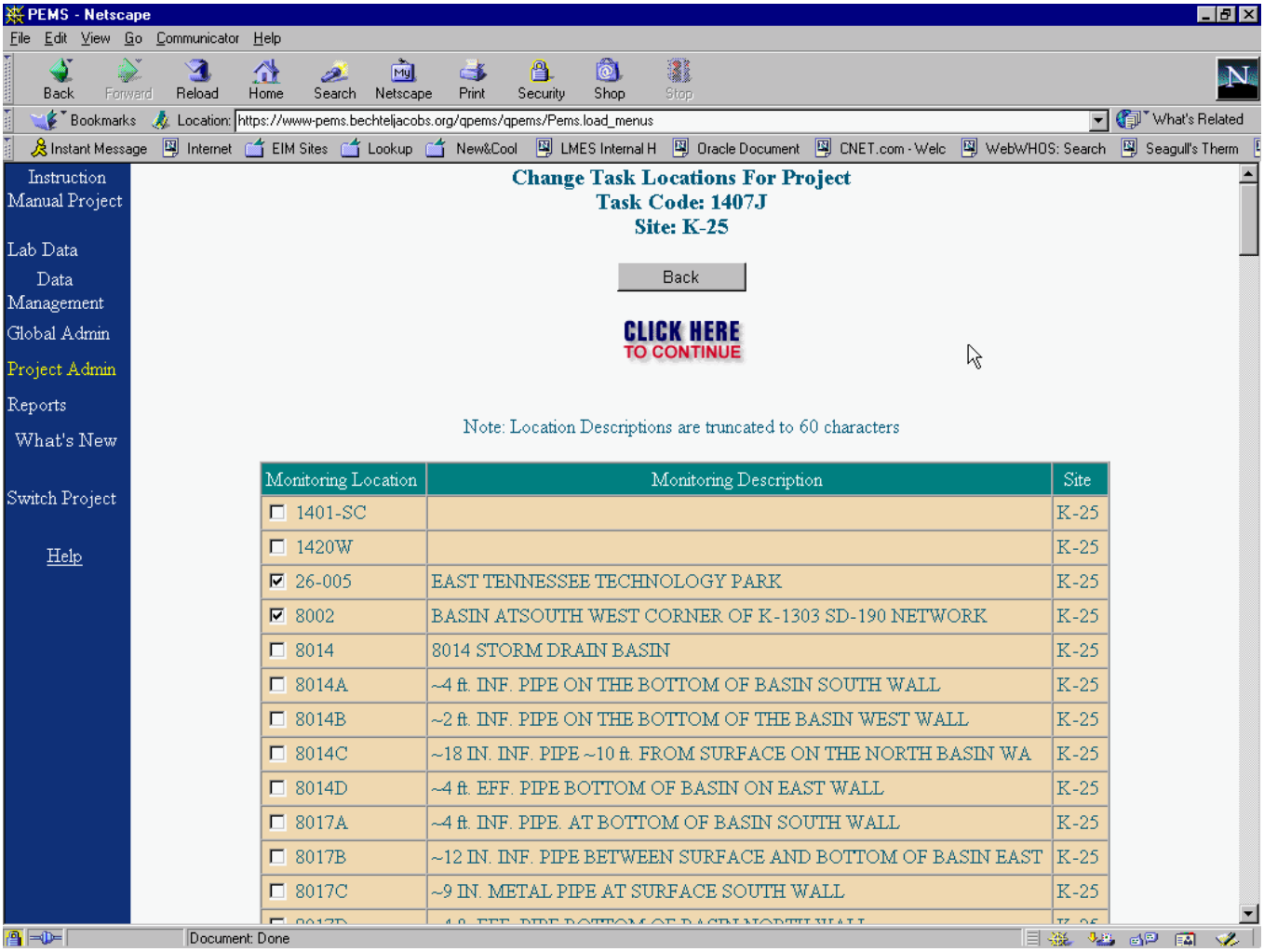


Figure 24

A check box is present beside each of the listed locations and their descriptions. To add a location to a task, click on the check box to select the location. If the intended location is not present in the list, it may need to be added to the PEMS system through the Monitoring Location application under the Global Administration menu. The user should confirm that this location is not in the PEMS system before adding a new location. Contact PEMS Support if assistance is needed in finding a location. When finished with the selection of locations, click on the 'Click Here to Continue' icon to add the locations to the task and return to the main screen of the application.

The same locations may be used for different tasks, as often as needed. If editing an existing task location list, simply un-check the checkbox of a task location to remove that location from the task. However, once a location and task code combination have been used in a field chain of custody, that location cannot be deleted from the task. No message will be displayed if the user attempts to delete the location. The operation simply will not succeed.

The definition of project is now complete. The user may now begin planning the sampling efforts. How the user proceeds may depend upon the needs of the project. At this point, a user may go straight to the Field Chain of Custody application to create sample planning documentation. If the project will need more regular sampling or has an extensive volume of samples, it is advised that the user set up a formal sample plan using the Task Reference and Field Task Map applications.

3.8 Project User Role

PEMS has a variety of user 'roles' which allow project personnel different levels of access to the project information. (Figure 25) Clicking on the appropriate box will give each user that role of access for each project.

The roles are:

A. Data Validator/Verifier – Allows assignment of validation or verification qualifiers
B. Lab – Allows labs to load data
C. Project Data Coordinator – Allows full project access
D. Reports Viewer – Allows 'read only' access to the PEMS Report and Global menus
E. Sample Planner – Allows access to sample planning functions

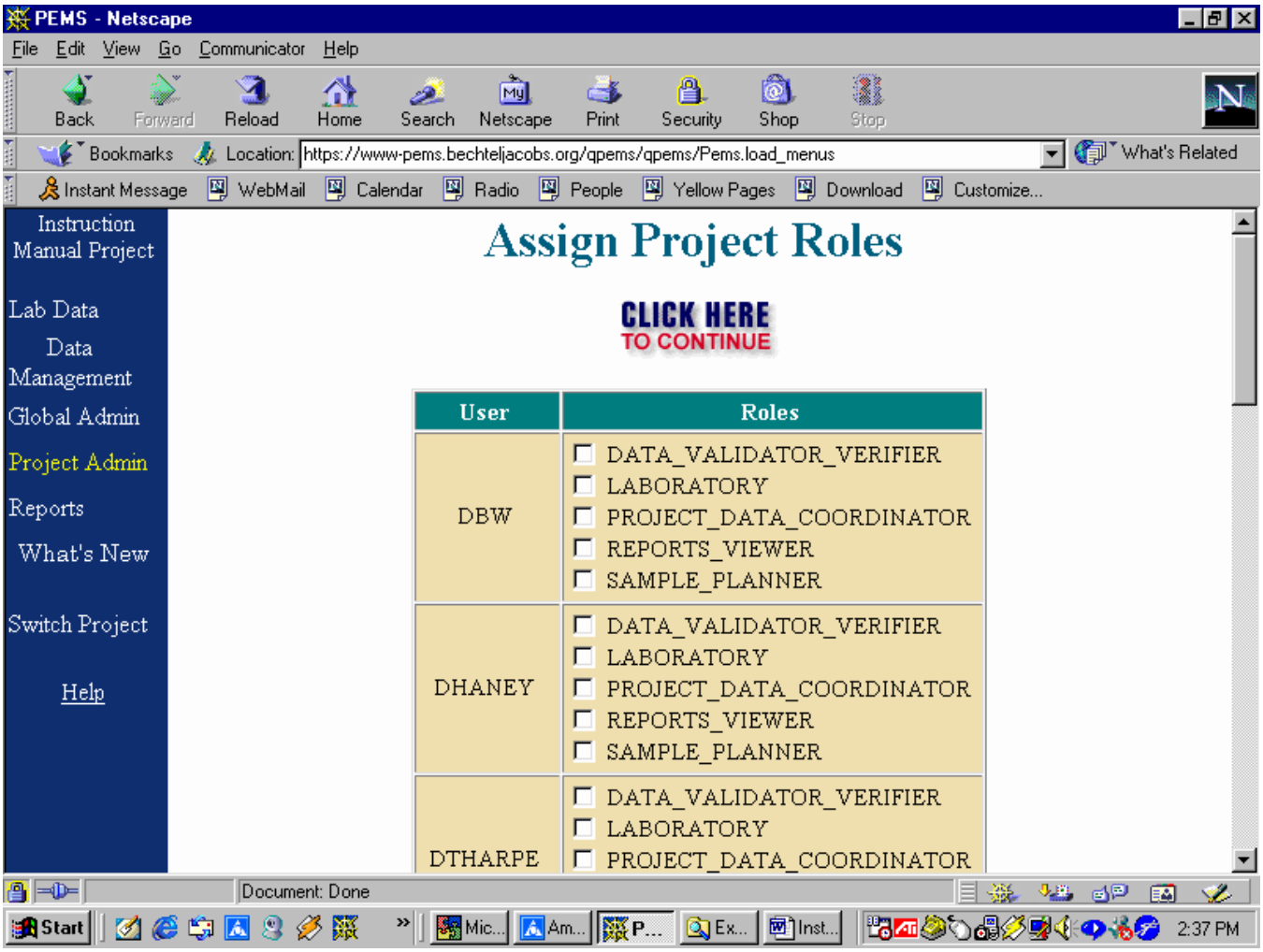


Figure 25

4.0 Data Management

To begin the creation of a sample plan, the user should first click on the 'Data Management' menu option on the left pane from the PEMS Main Menu. This will display the Data Management menu, as shown in Figure 26. This menu is where the majority of the day-to-day PEMS applications can be found.

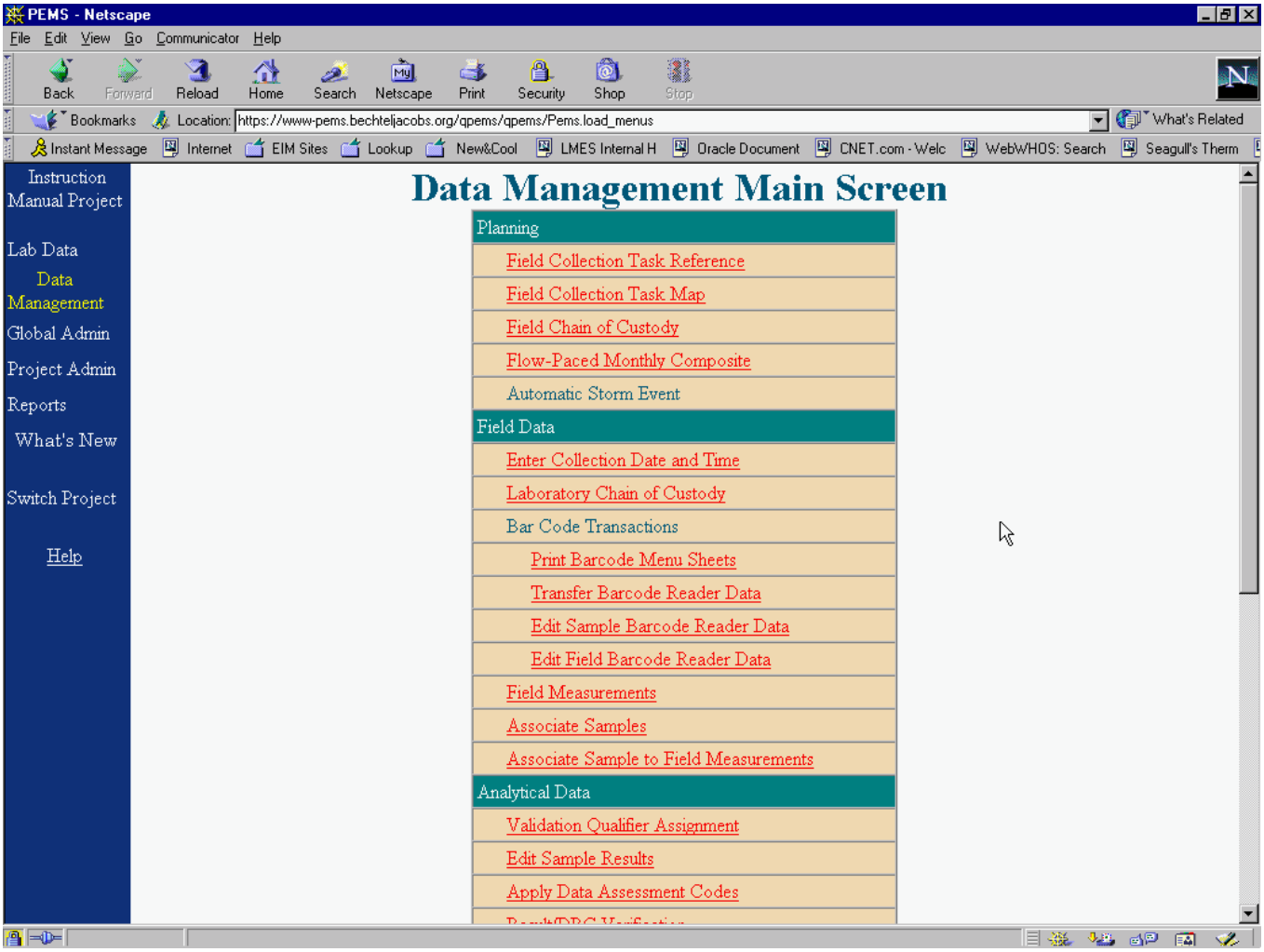


Figure 26

4.1 Sample Analysis Plan

Comma-separated value (CSV) files taken from a Sample Analysis Plan (SAP) (Figure 27) may be inserted into tables in PEMS when creating a project in PEMS. The user must have either Project Data Coordinator (PDC) or Sample Planner access to the current project to be able to load the SAP files.

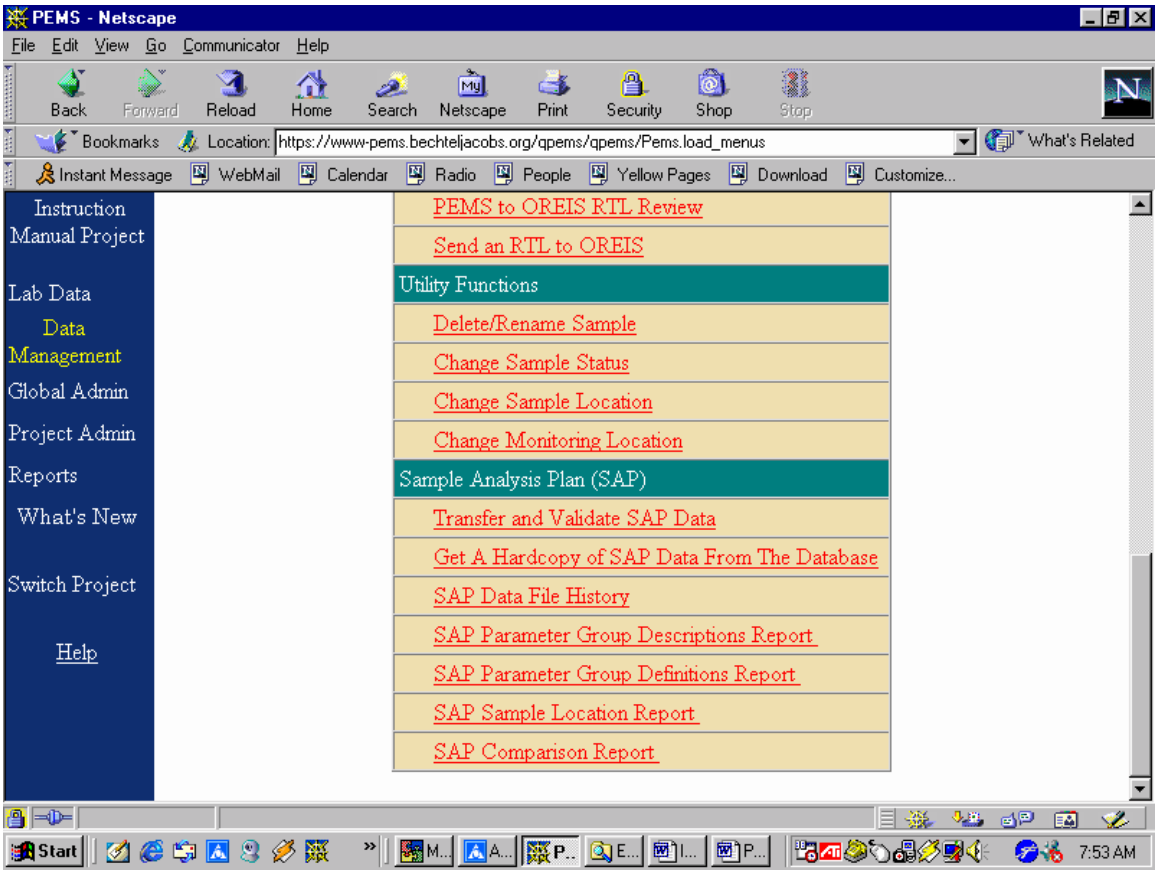


Figure 27

4.1.1 Transfer and Validate SAP Data

The file structures for each of the SAP files are listed below. The column header row should be removed from the file before loading into PEMS.

File 1: Parameter Group Descriptions (comma delimited). The file should be saved in text format and file the name should end with .des.

Field Number	Field Name	Max Width	Definition
1	FY	4	Fiscal Year
2	Parameter_Group	10	Parameter Group code
3	Parameter_Group_Description	80	Parameter Group description from PEMS

The second file is Parameter Group Definitions (comma delimited). This text file should end in .def.

Field Number	Field Name	Max Width	Definition	Valid Values
1	FY	4	Fiscal Year	
2	Parameter_Group	10	Parameter Group code	See File 1 structure: Parameter_Group field for list of valid Values
3	Analyte _Name	90	Chemical name for the analyte	See Chemical Name in OREIS Parameter Code list
4	Detection_Limit	14	Method Detection Limit	
5	Detection_Unit	10	See Units in OREIS Unit list	
6	Analyte ID	9	CAS number or pseudo-CAS number. This field is optional	See Parameter in OREIS Parameter Code list

The third file defines sample locations. This file should end with .smp.

Field Number	Field Name	Max Width	Definition	Valid Values
1	FY	4	Fiscal year	
2	Project_ID	10	Identifier for the project the sample is a part of	Must match an existing PEMS project ID
3	Watershed_Name	10	Watershed location	
4	Task	5	Task Grouping	
5	Station_Name	15	Sample Location	See PEMS Monitoring Locations in Global Admin Section
6	Matrix_ID	2	A code for the sample matrix	See OREIS MED-TYPE
7	Sampling_ Frequency	20	Sampling Frequency	WK – weekly, M – Monthly, Qx fiscal quarter
8	Field_Duplicate	1	Is Field Duplicate required	Y or N
9	Parameter_Group	100	List of parameter groups	See File 1 structure: Parameter_Group field for list of valid values

These files may be loaded into the PEMS database using the ‘SAP Data Load’ function. The new project must exist in PEMS before the .des and .def files can be loaded into PEMS. SAP files must be unique for the project.

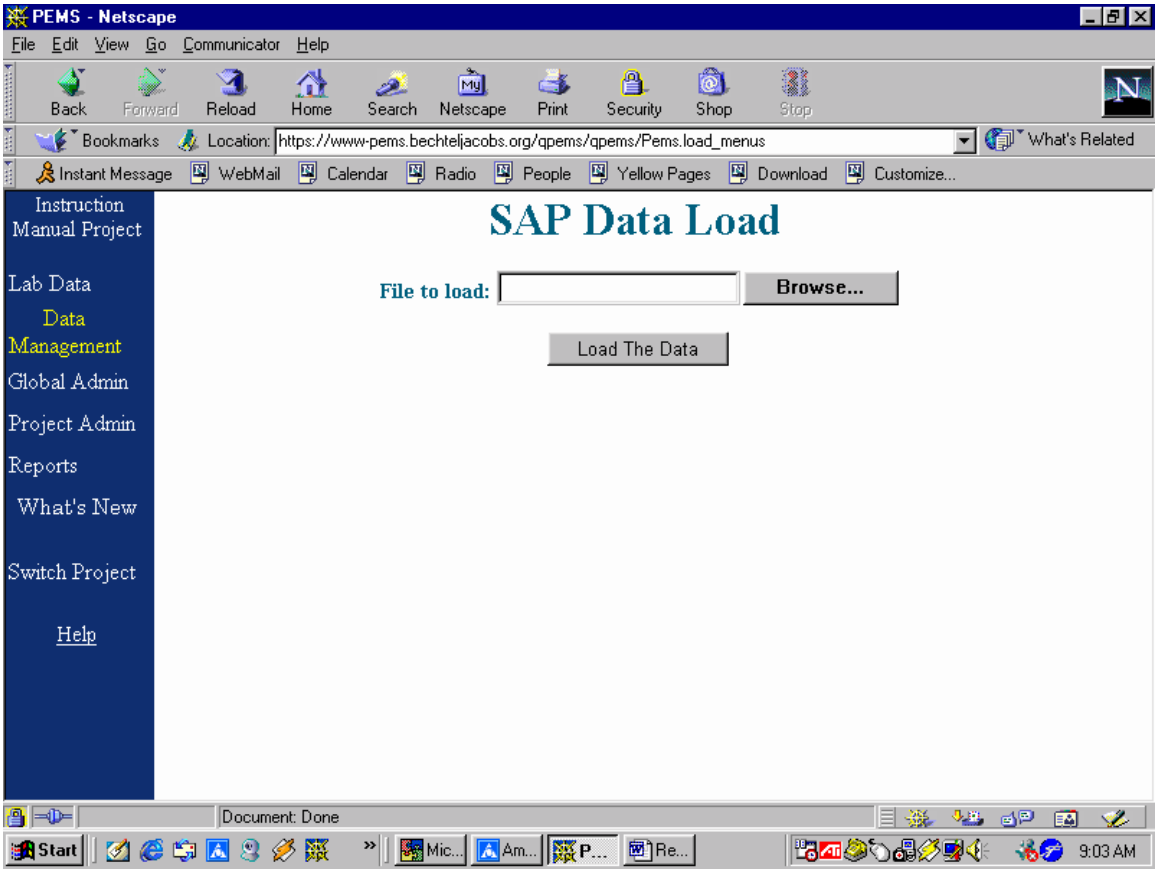


Figure 28

When each file is loaded, the system will run a set of checks on the data. (Figures 29-30)

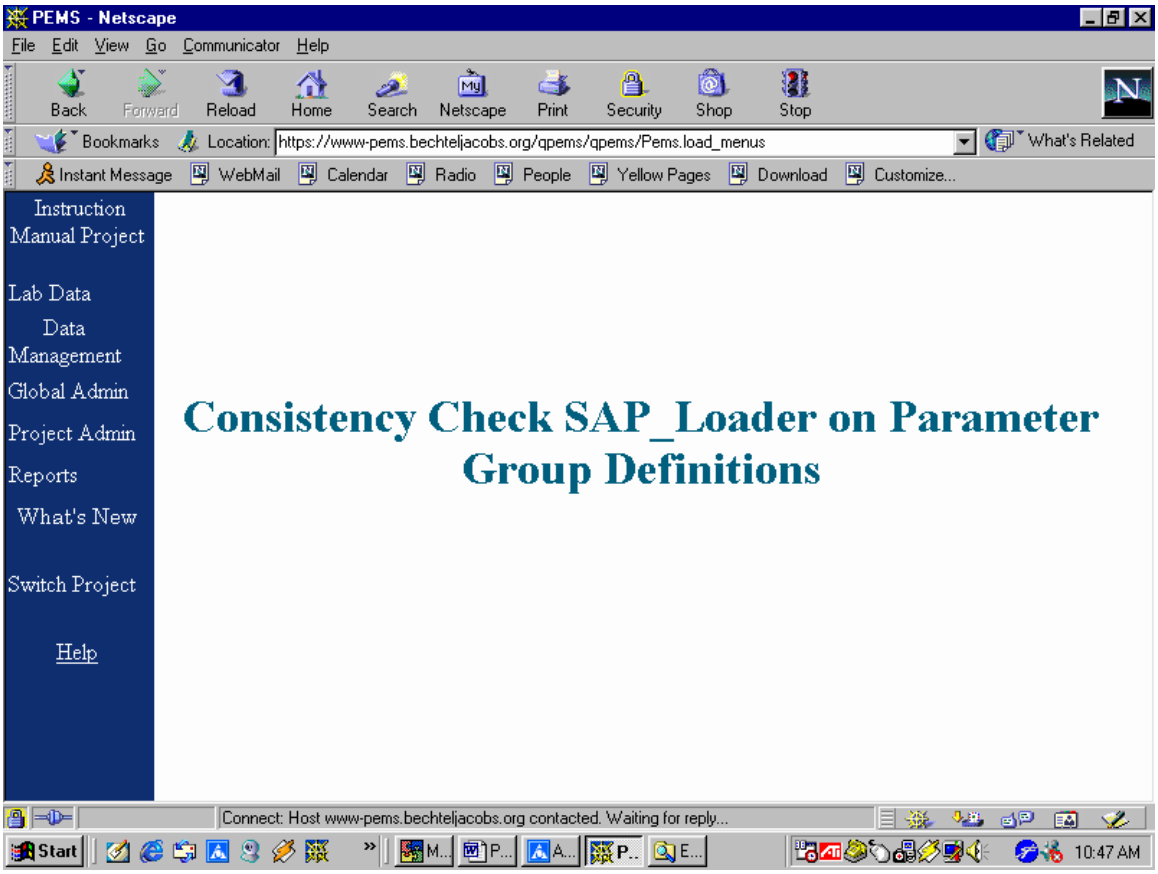


Figure 29

The system will confirm that the data has been inserted into the database.

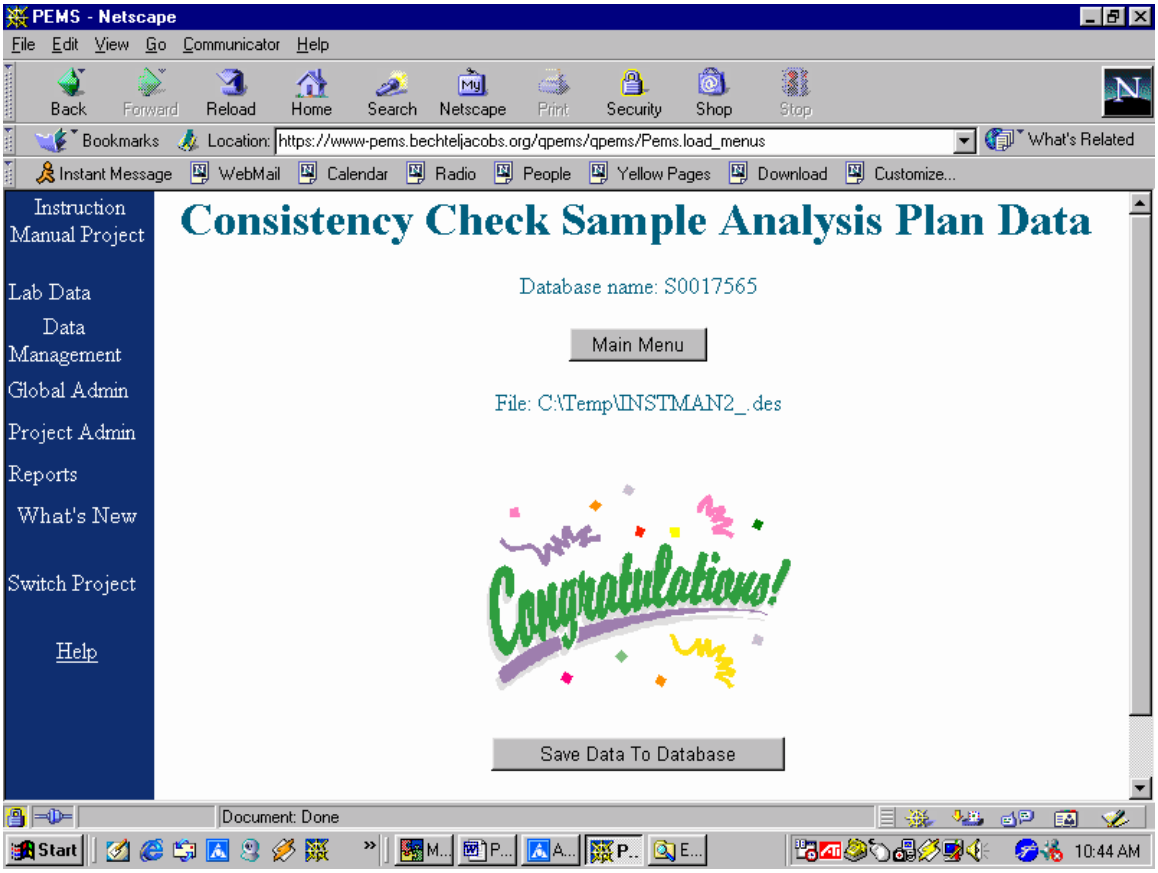


Figure 30

The system will assign a unique file identifier to each file as shown in Figure 31. All SAP files will have an identifier that starts with "S." The SAP files are loaded into the current project. Creation of a project (Project Menu: Project Definition) must have already occurred to receive the files that define the sample plan.

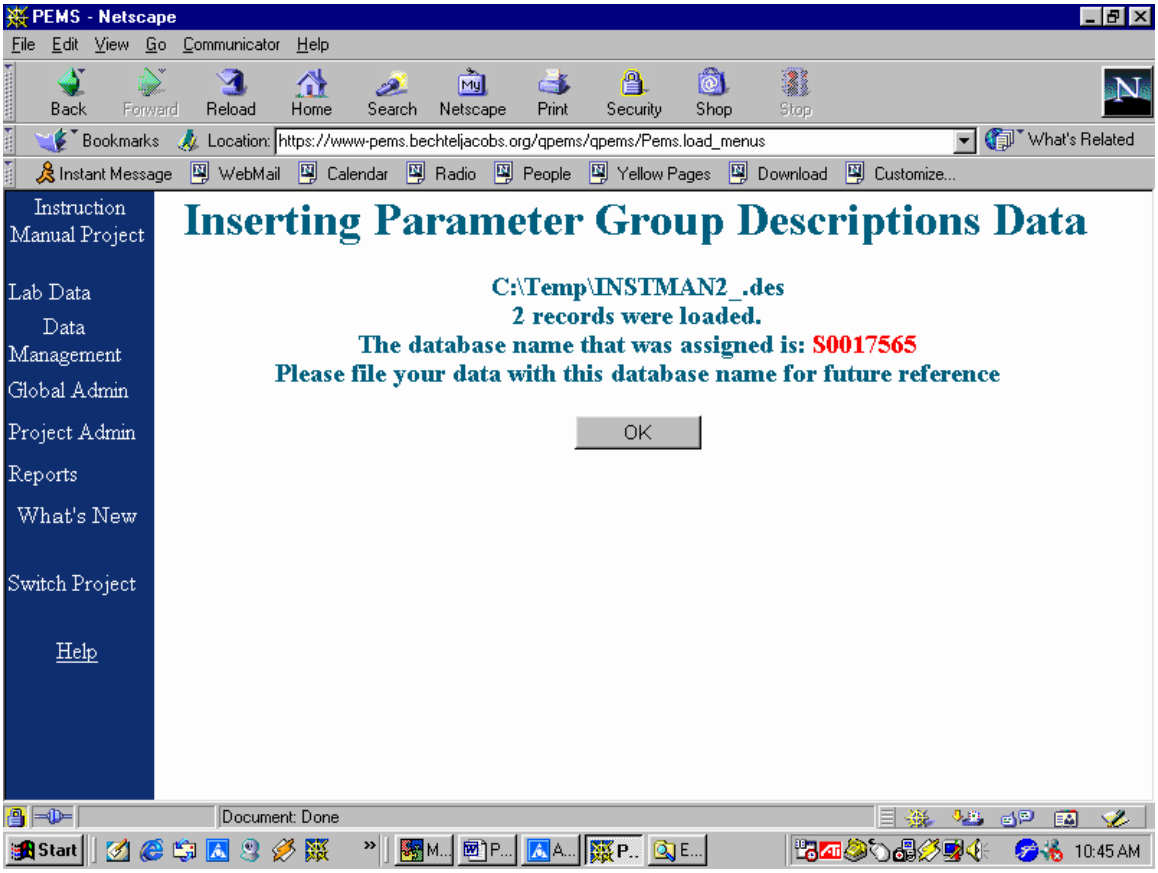


Figure 31

The user may now load the files into the new project. The .smp file loads the Field Collection Task Reference screen in the new project. The Tracker user would then pull these files from PEMS to create portions of the Tracker SOW.

4.1.2 Get a Hardcopy of SAP Data from the Database

Users may obtain a copy of the SAP data by date range, for the current or any project to which the user has access by using the 'Get A Hardcopy of SAP Data From The Database' function.

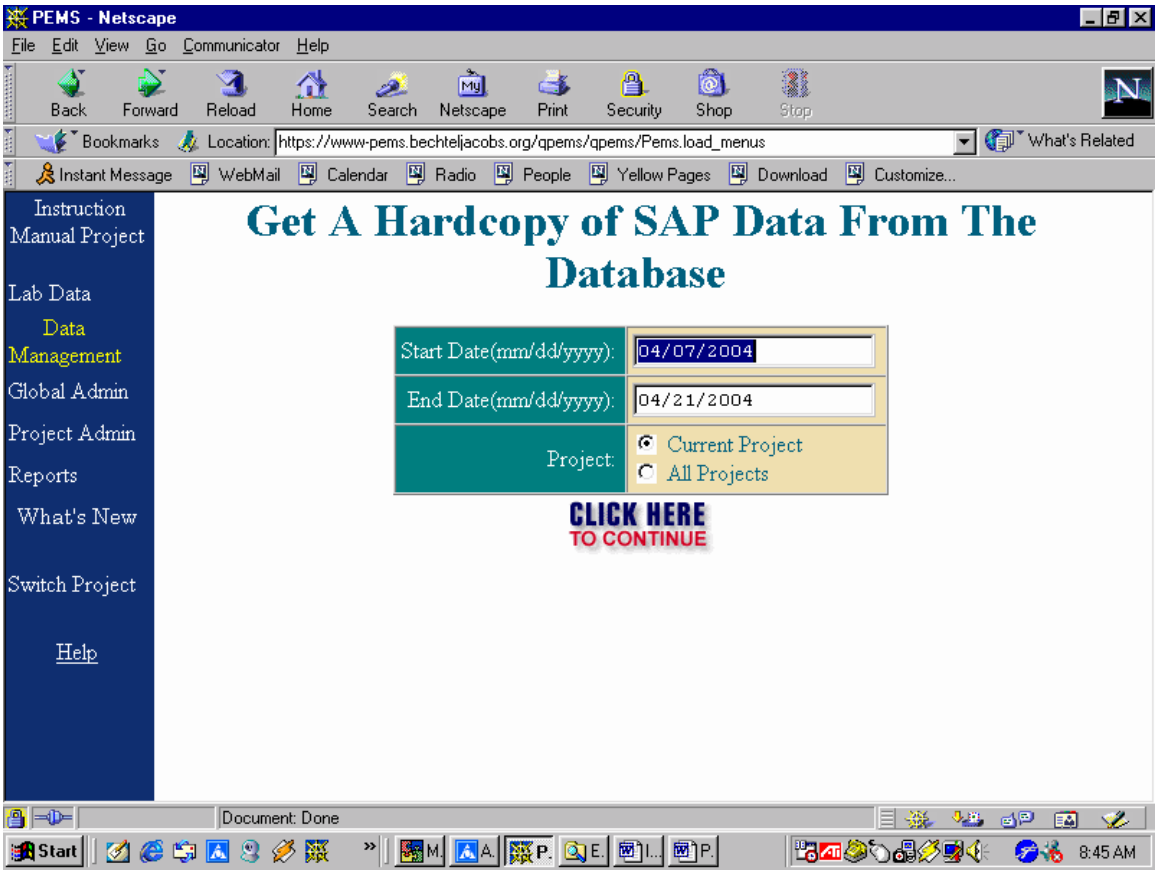


Figure 32

Figure 33 shows an example of the SAP file information displayed by this function.

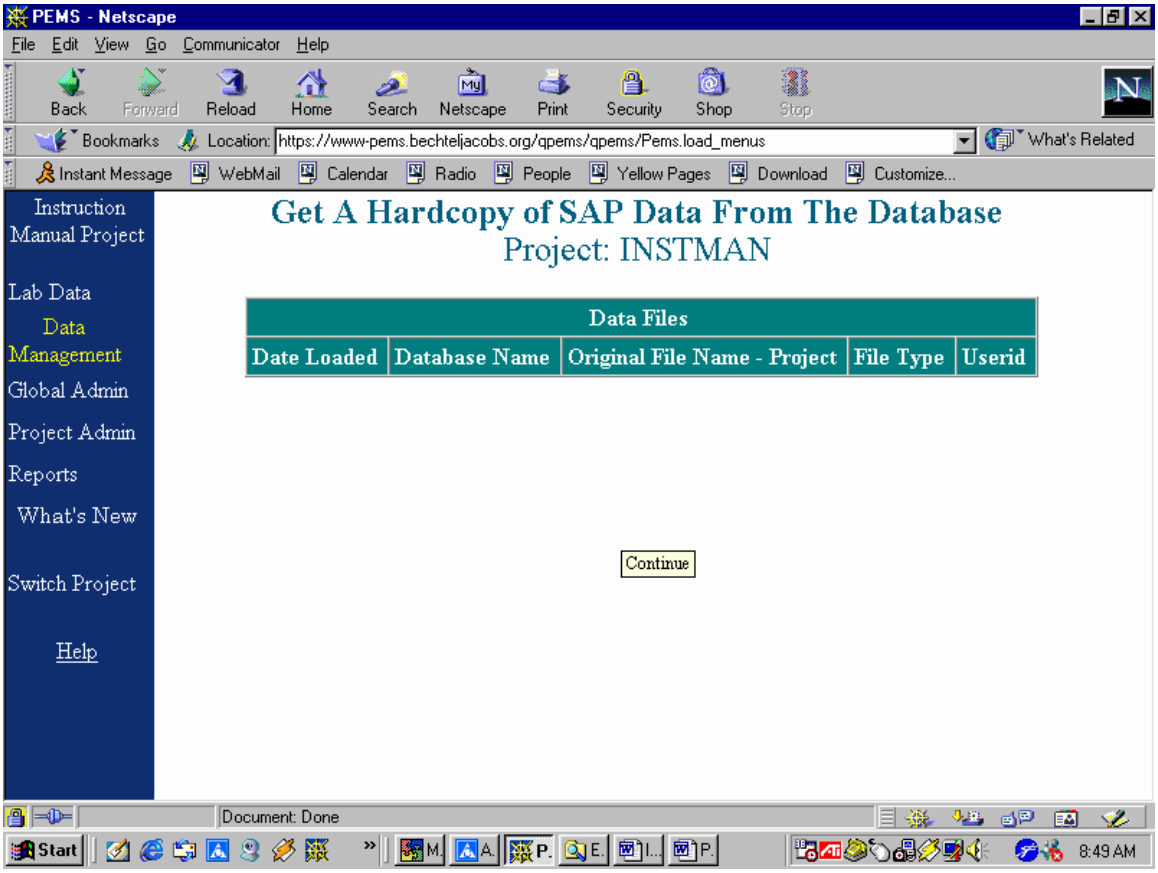


Figure 33

4.1.3 SAP Data File History

The user may enter the database number for a particular SAP file and view information about the file (e.g., when it was loaded). Files can be downloaded through the Hardcopy option and viewed locally through a local editor. The file prompt will accept a file identifier 'Sxxxxx' or an actual name (e.g., sapdes.def).

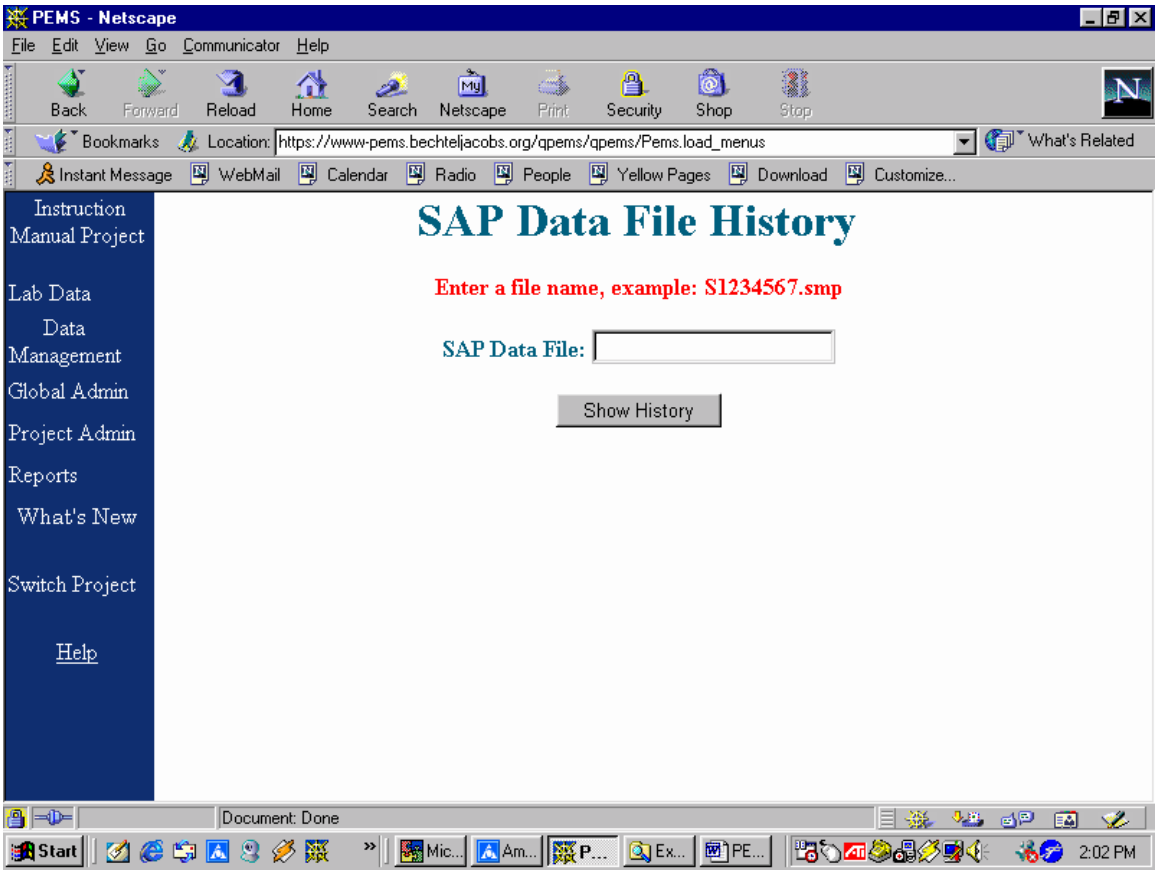


Figure 34

4.1.4 SAP Parameter Group Descriptions Report

The ‘SAP Parameter Group Descriptions Report’ gives a list of all the group codes with corresponding descriptions found in PEMS for the selected fiscal year. (Figure 35)

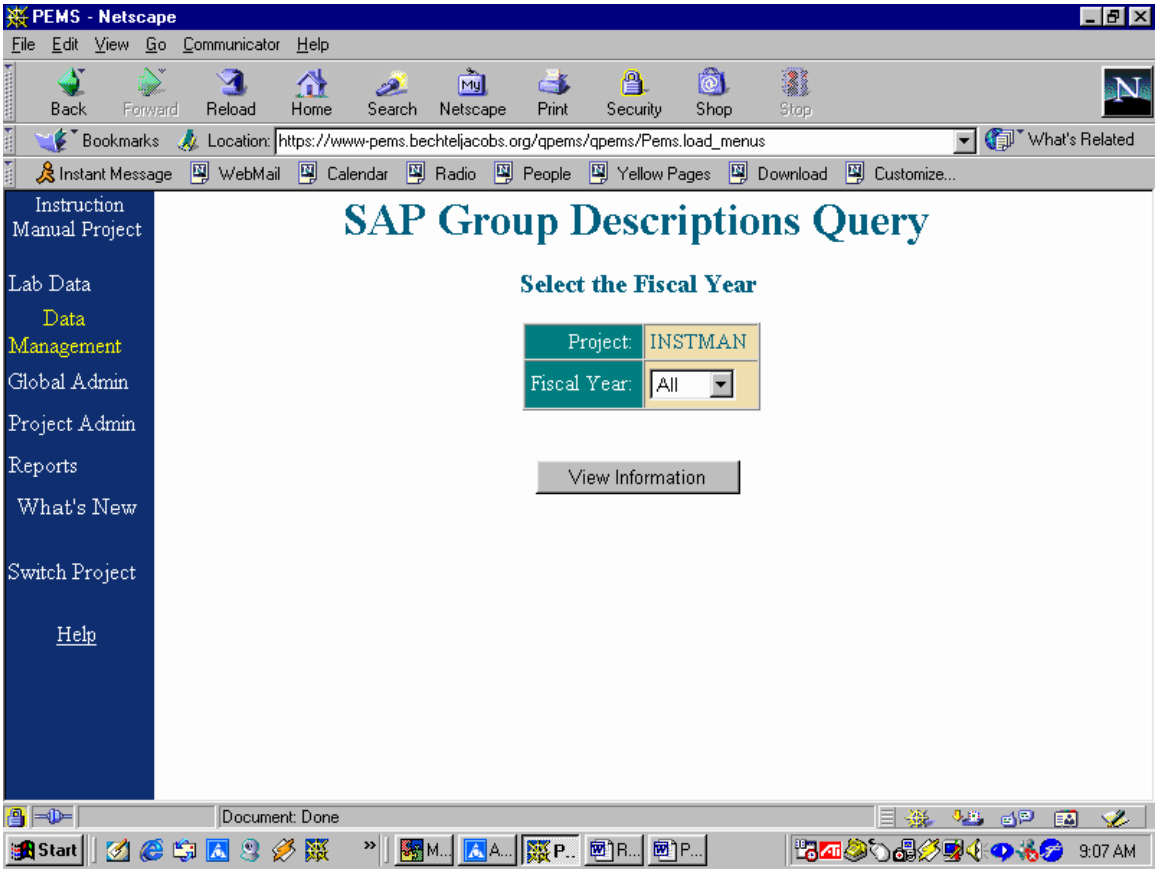
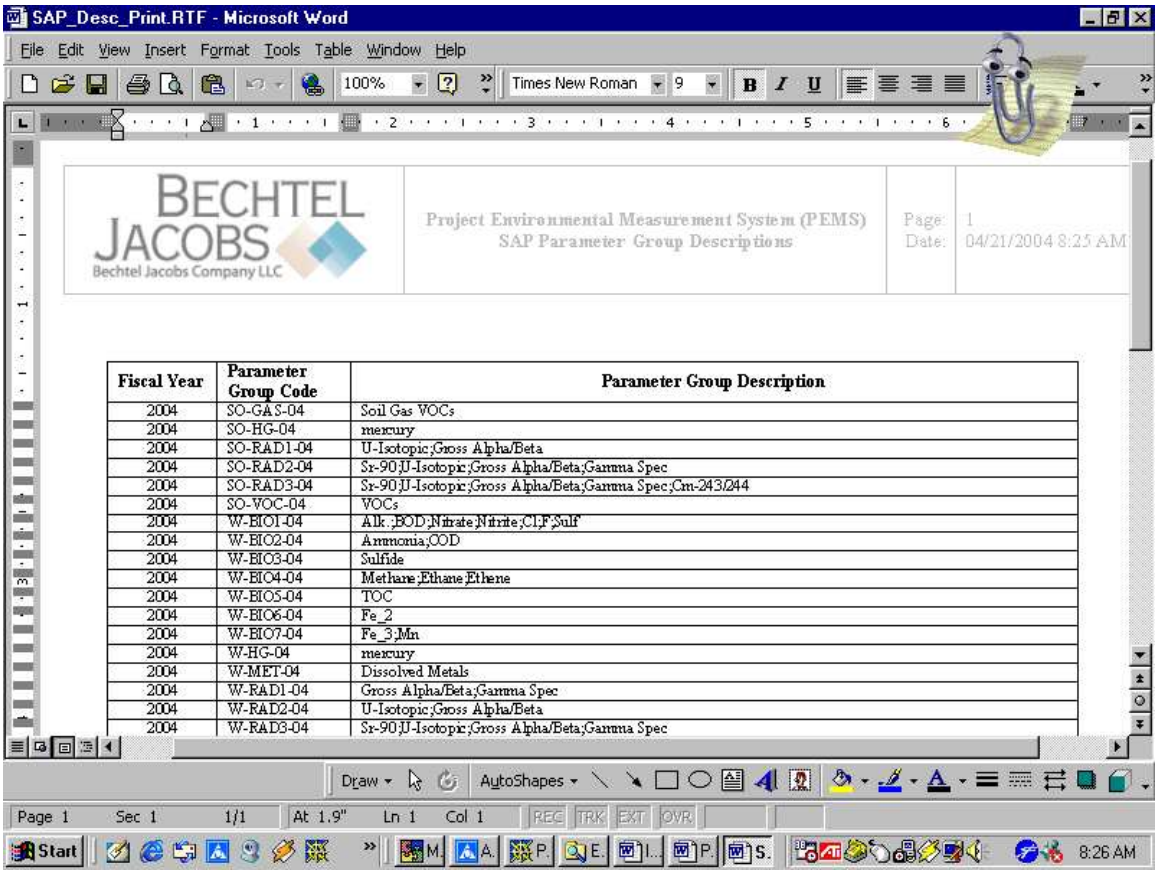


Figure 35

Figure 36 shows the SAP Parameter Group Descriptions Report in a printable .rtf format.



Fiscal Year	Parameter Group Code	Parameter Group Description
2004	SO-GAS-04	Soil Gas VOCs
2004	SO-HG-04	mercury
2004	SO-RAD1-04	U-Isotopic;Gross Alpha/Beta
2004	SO-RAD2-04	Sr-90;U-Isotopic;Gross Alpha/Beta;Gamma Spec
2004	SO-RAD3-04	Sr-90;U-Isotopic;Gross Alpha/Beta;Gamma Spec;Cm-243/244
2004	SO-VOC-04	VOCs
2004	W-BIO1-04	Alk.;BOD;Nitrate;Nitrite;Cl;F;Sulf
2004	W-BIO2-04	Ammonia;COD
2004	W-BIO3-04	Sulfide
2004	W-BIO4-04	Methane;Ethane;Ethene
2004	W-BIO5-04	TOC
2004	W-BIO6-04	Fe_2
2004	W-BIO7-04	Fe_3;Mn
2004	W-HG-04	mercury
2004	W-MET-04	Dissolved Metals
2004	W-RAD1-04	Gross Alpha/Beta;Gamma Spec
2004	W-RAD2-04	U-Isotopic;Gross Alpha/Beta
2004	W-RAD3-04	Sr-90;U-Isotopic;Gross Alpha/Beta;Gamma Spec

Figure 36

4.1.5 SAP Parameter Group Definitions Report

The SAP Parameter Group Definitions Report will give a list of analytes, limits, units and Chemical Abstract Numbers (CAS) associated with each group for the year.

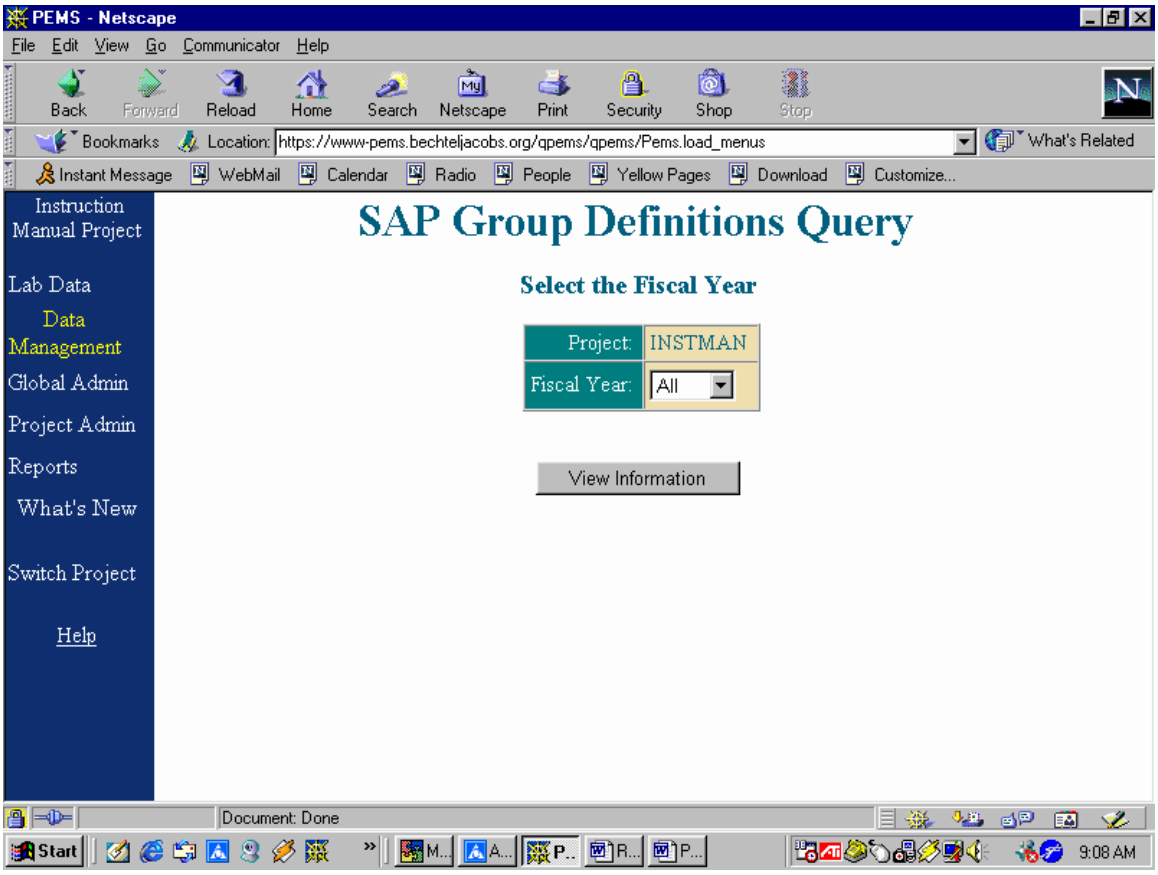
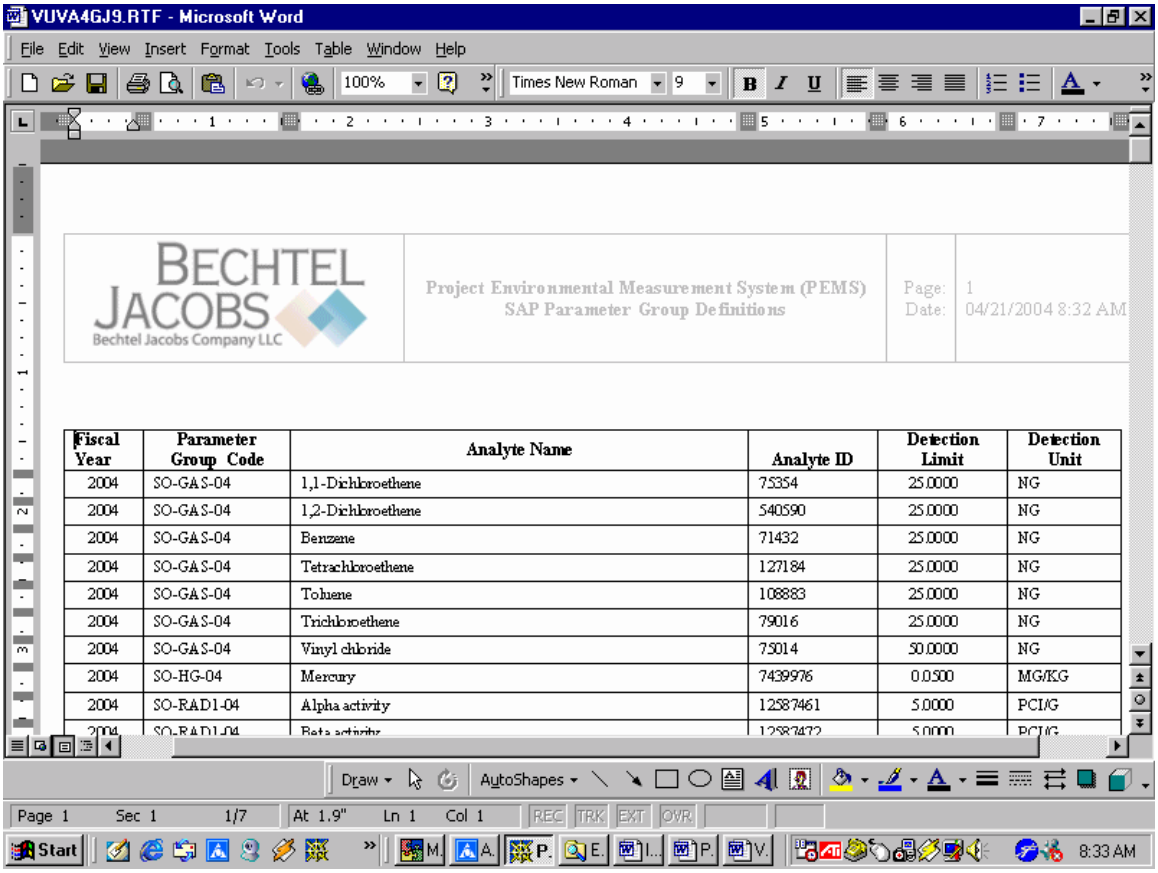


Figure 37

Figure 38 shows the SAP Group Definitions Report in a printable, .rtf format.



Fiscal Year	Parameter Group Code	Analyte Name	Analyte ID	Detection Limit	Detection Unit
2004	SO-GAS-04	1,1-Dichloroethene	75354	25.0000	NG
2004	SO-GAS-04	1,2-Dichloroethene	540590	25.0000	NG
2004	SO-GAS-04	Benzene	71432	25.0000	NG
2004	SO-GAS-04	Tetrachloroethene	127184	25.0000	NG
2004	SO-GAS-04	Toluene	108883	25.0000	NG
2004	SO-GAS-04	Trichloroethene	79016	25.0000	NG
2004	SO-GAS-04	Vinyl chloride	75014	50.0000	NG
2004	SO-HG-04	Mercury	7439976	0.0500	MG/KG
2004	SO-RAD1-04	Alpha activity	12587461	5.0000	PCI/G
2004	SO-RAD1-04	Beta activity	12587472	5.0000	PCI/G

Figure 38

4.1.6 SAP Sample Locations Report

The ‘SAP Location Report’ gives location, station, task, matrix and other information by fiscal year.

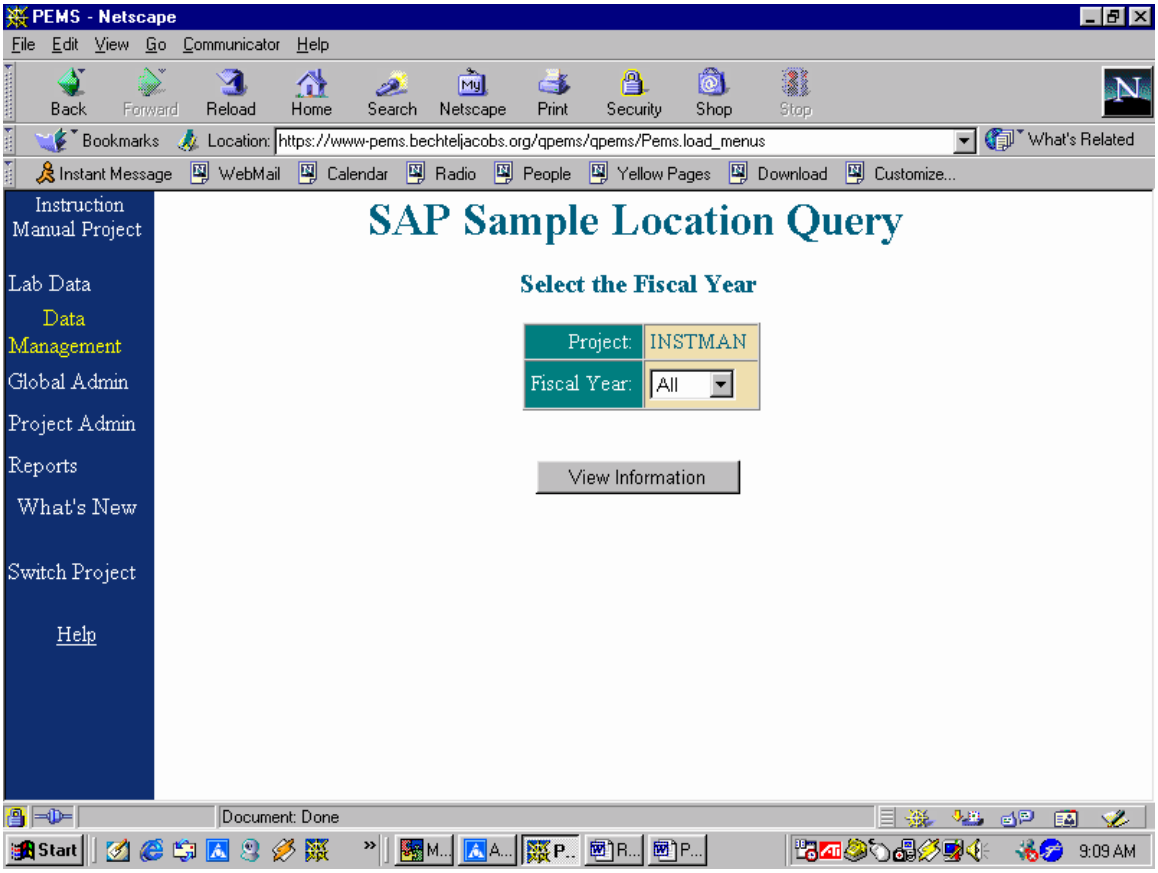


Figure 39

Figure 40 shows the SAP Sample Location Report for the fiscal year in a printable .rtf format.

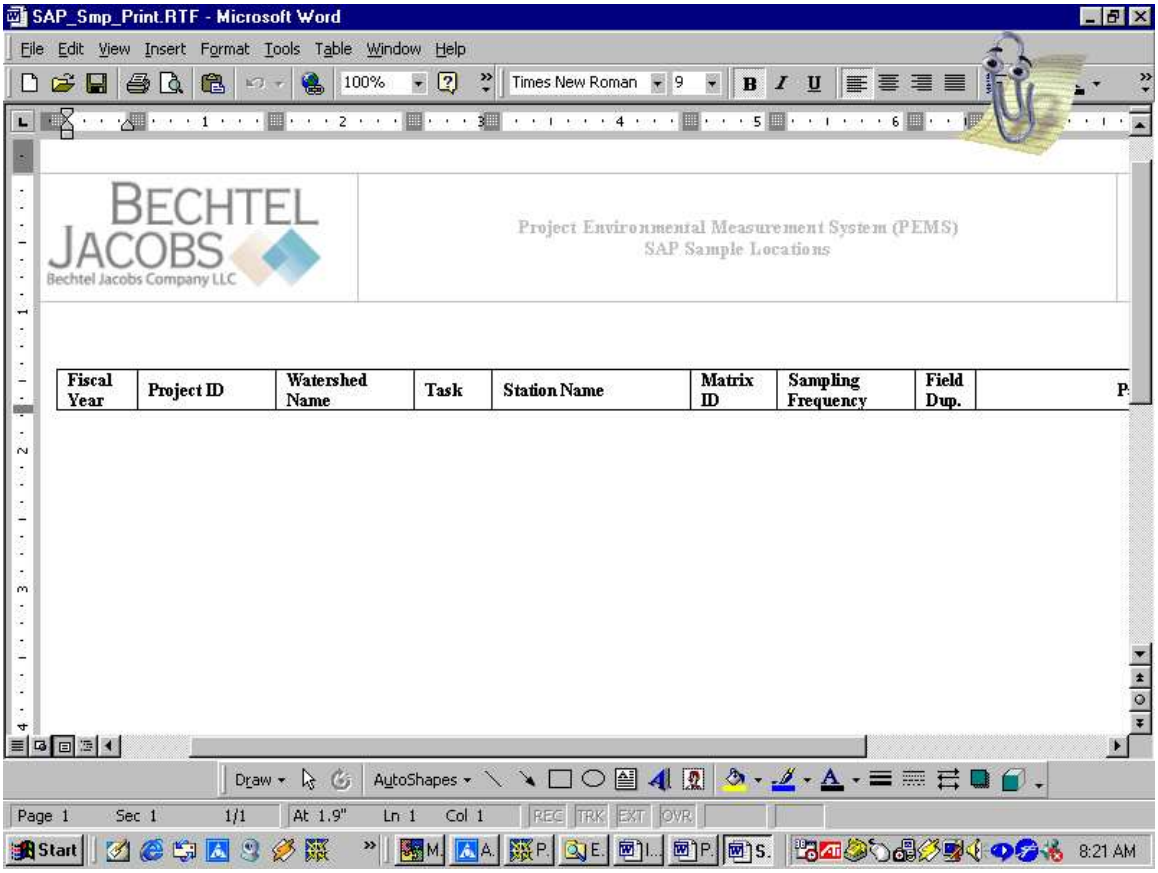


Figure 40

4.1.7 SAP Comparison Report

A Project Data Coordinator or Sample Planner uses the 'SAP Comparison Report' after the laboratories have loaded electronic data deliverables into PEMS. This report compares what was asked for in the SAP (number of samples requested by analysis group, station, matrix, etc.) with results received. (Figure 41)

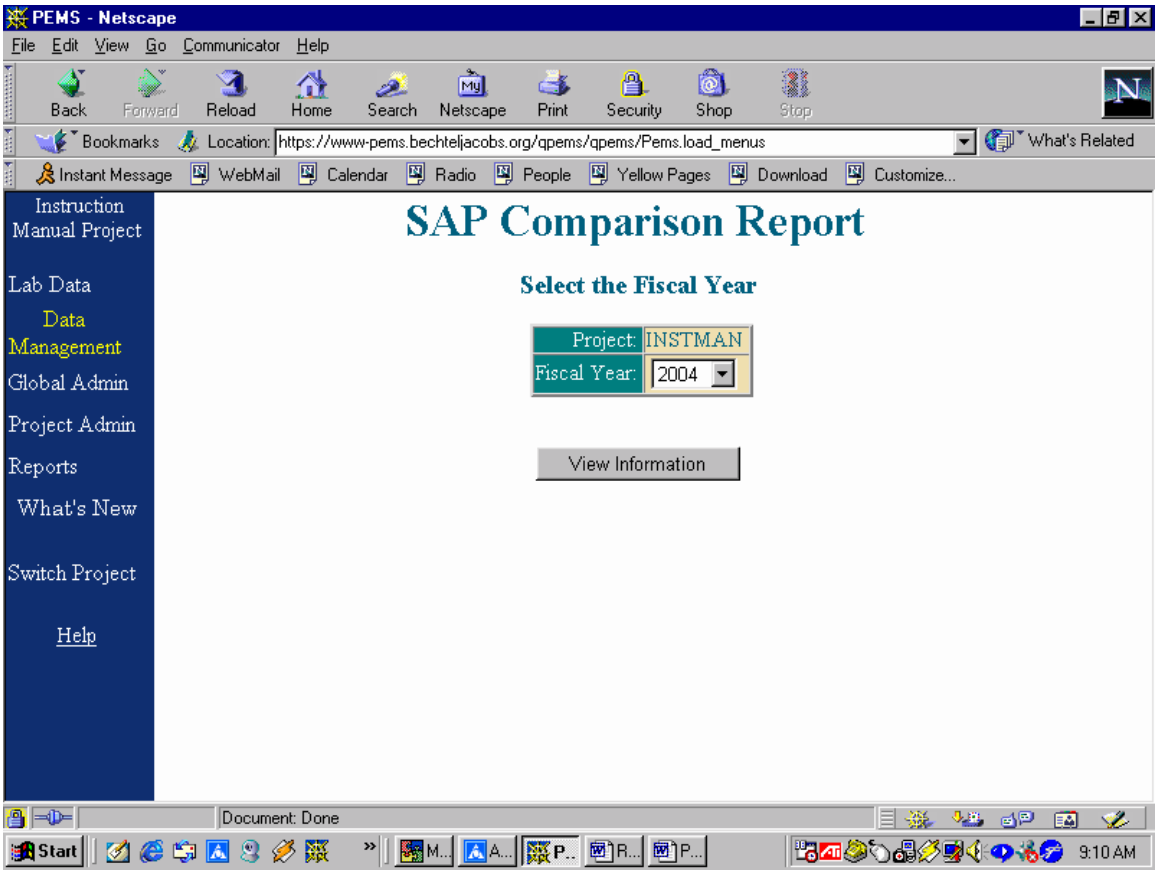


Figure 41

4.2 Planning

There are four subsections to the Planning menu. These sections are titled ‘Field Collection Task Reference’, ‘Field Collection Task Map’, Field Chain of Custody’ and ‘Flow-Paced Monthly Composite’. The Automatic Storm Event is currently unavailable.

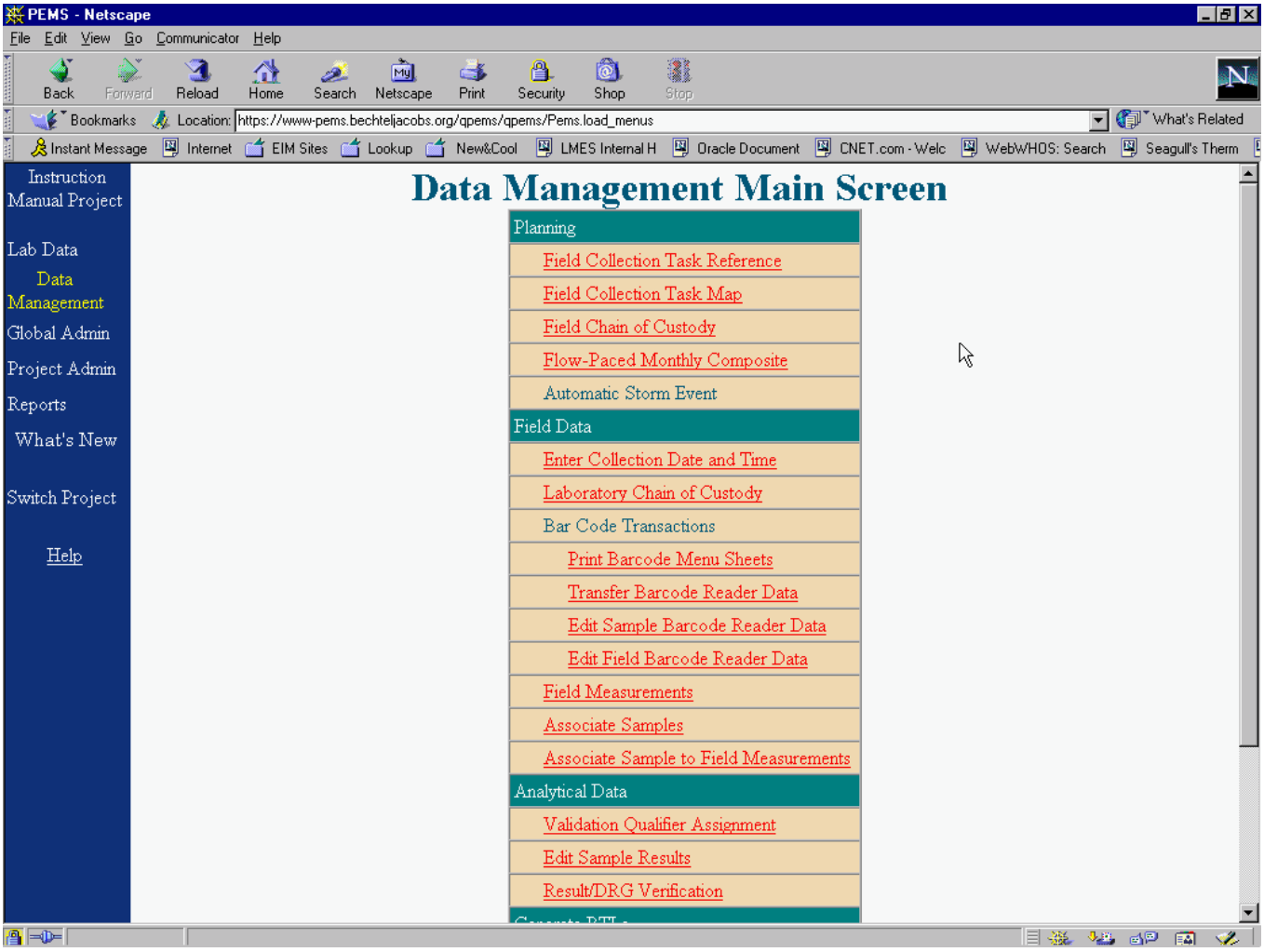


Figure 42

4.2.1 Field Collection Task Reference

Click on the Field Collection Task Reference option to display the main screen of the Task Reference application, as shown in Figure 43. Depending upon resolution of the user's PC, portions of this screen may not be visible. If this is the case, a scroll bar is displayed at the bottom of the screen to allow the user to see all of the data.

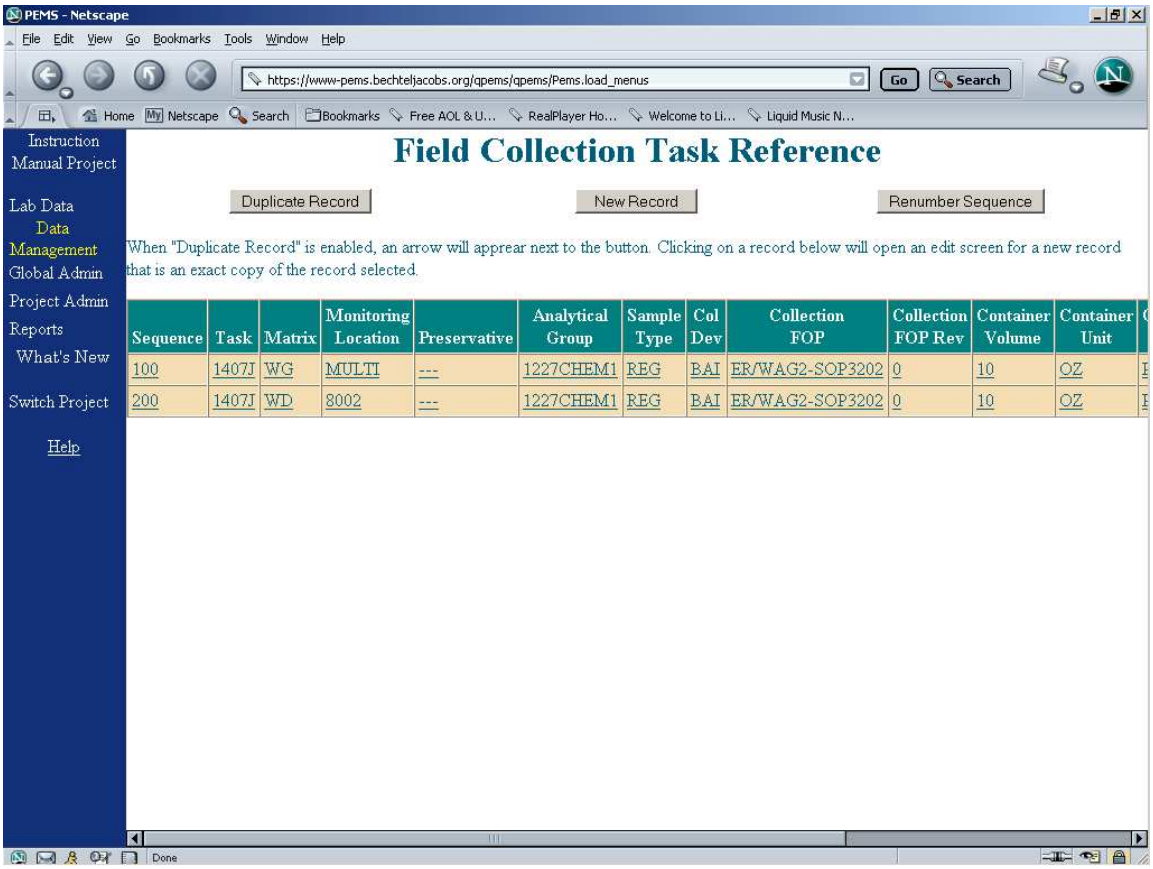


Figure 43

The Task Reference application provides a means for the user to create a template for sample planning activity. This template can be used repeatedly to define samples for collection.

To begin, click on the 'New Record' button at the top of the screen. This will display a data entry screen for the Task Reference application (See Figure 44). The first field, Field Sequence, is a numeric field

that is intended to assist the user in ordering planned samples. For example, if the user wanted to group all Trip Blank samples on the task reference screen, a sequence number in the 500 range could be used for each entry (e.g. 500, 501, 502, etc.). All Regular samples could be ordered into the 1000 series and so on. The sequence number on the main screen orders the Task Reference entries. The Field Sequence number is mandatory and must be unique for each entry.

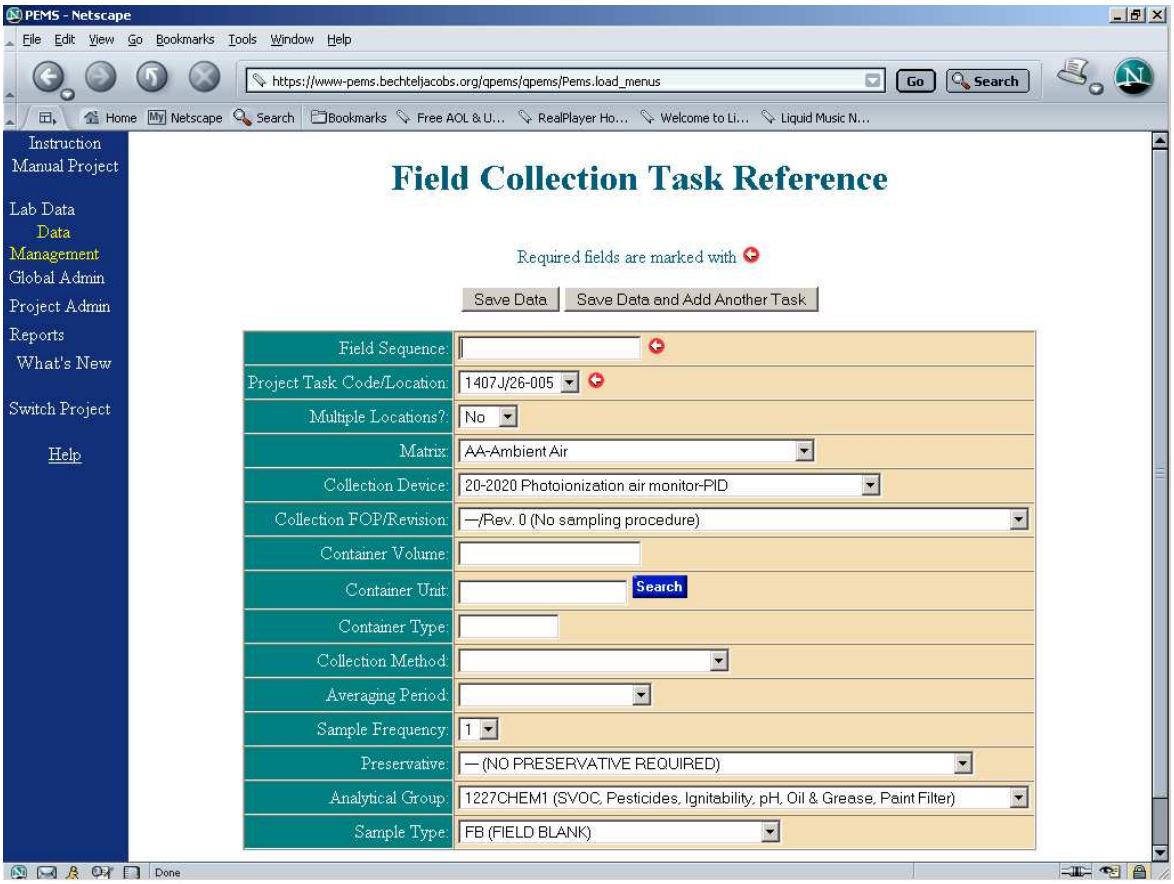


Figure 44

Using the Project Task Code/Locations drop-down list, select the appropriate task and location combination. There is a special field labeled 'Multiple Locations?' that can have a value of ‘Yes’ or ‘No’. When this field has a value of 'No' the sample defined will be for the task and location specified in the previous field. When it has a value of 'Yes', the same sample definition will be used for ALL locations associated with that task. This is a quick way of defining samples for a task if the same type of sample will be collected at multiple locations. Task Reference entries that are so defined will have a value of 'MULTI' for the Monitoring Location field on the main screen of the Task Reference application.

Clicking on the ‘Search’ button will open a pop-up window that displays all of the possible containers in the PEMS system as seen in Figure 45. These values are displayed in a drop-down list. Selecting the

container volume, unit and type and clicking on the ‘OK’ button will close the window and populate these fields on the Task Reference record.

For detailed descriptions of the remaining fields on this screen, please refer to the *PEMS Data Dictionary* and/or the *PEMS User's Manual*, on the PEMS Home Page, https://www-pems.ettp.energy.gov/pems/home/home.html.

When data entry is completed, click on the 'Save Data' button to save the record and return to the main screen of the Task Reference application. To remain on the edit screen and add additional Task Reference records, click on the 'Save Data and Add Another Task' button. This will save the current information and clear the Field Sequence field. The entries from the previous record will remain, as this helps to speed data entry for similar samples.

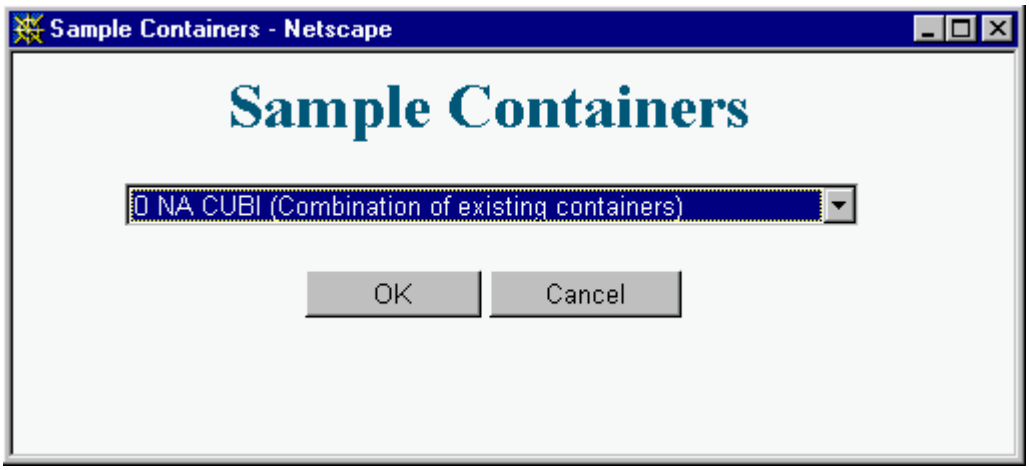


Figure 45

On return to the main screen of the Task Reference application, all of the entered task reference records are displayed on screen. To edit a task reference record, simply click on any field of that record and the record editor will be invoked for that record. The value in the Field Sequence field cannot be changed and there is an additional button at the top right of the screen. This button, labeled ‘Delete This Task’, will remove the record from the Task Reference template. It will not affect the tasks defined for the project or any of the project’s samples already in the PEMS system.

After the task reference records have been created, users may speed data entry by using the duplicate mode to copy information. Clicking on the 'Duplicate Record' button will place the application in duplicate mode, which is indicated by an arrow icon next to the button (see Figure 46). To copy a record, click on any field of the record to be duplicated. To ensure that the entered sequence number is unique, make the desired changes to the new record and click on the save button to save the changes. The display will return to the Task Reference main screen.

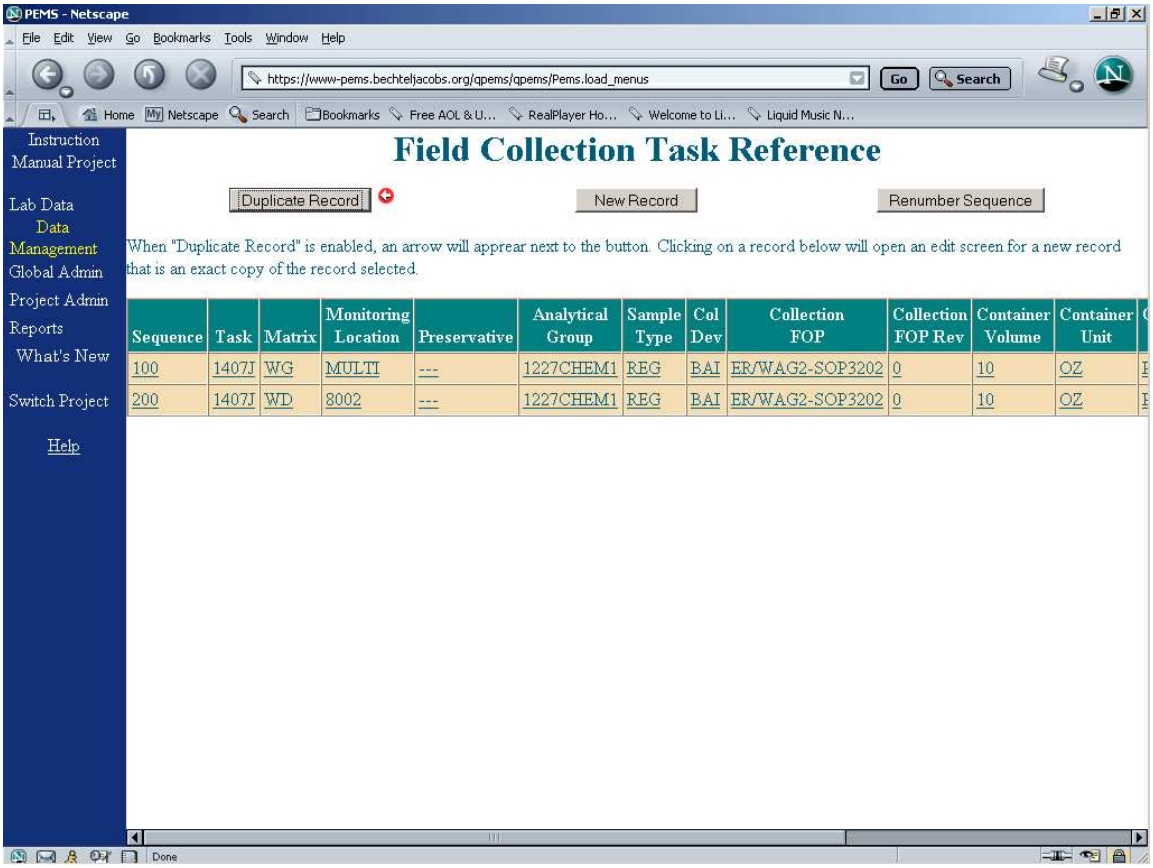


Figure 46

After creating the Task Reference template records, the user may wish to re-order the records so that they are visually displayed differently. Clicking on the 'Renumber Sequence' button will display an edit screen that contains all of the records in the template (See Figure 31). On this screen, all of the template fields are display-only, with the exception of the sequence number field. By changing the values of the sequence fields, the user may re-group or re-sort the records in any order.

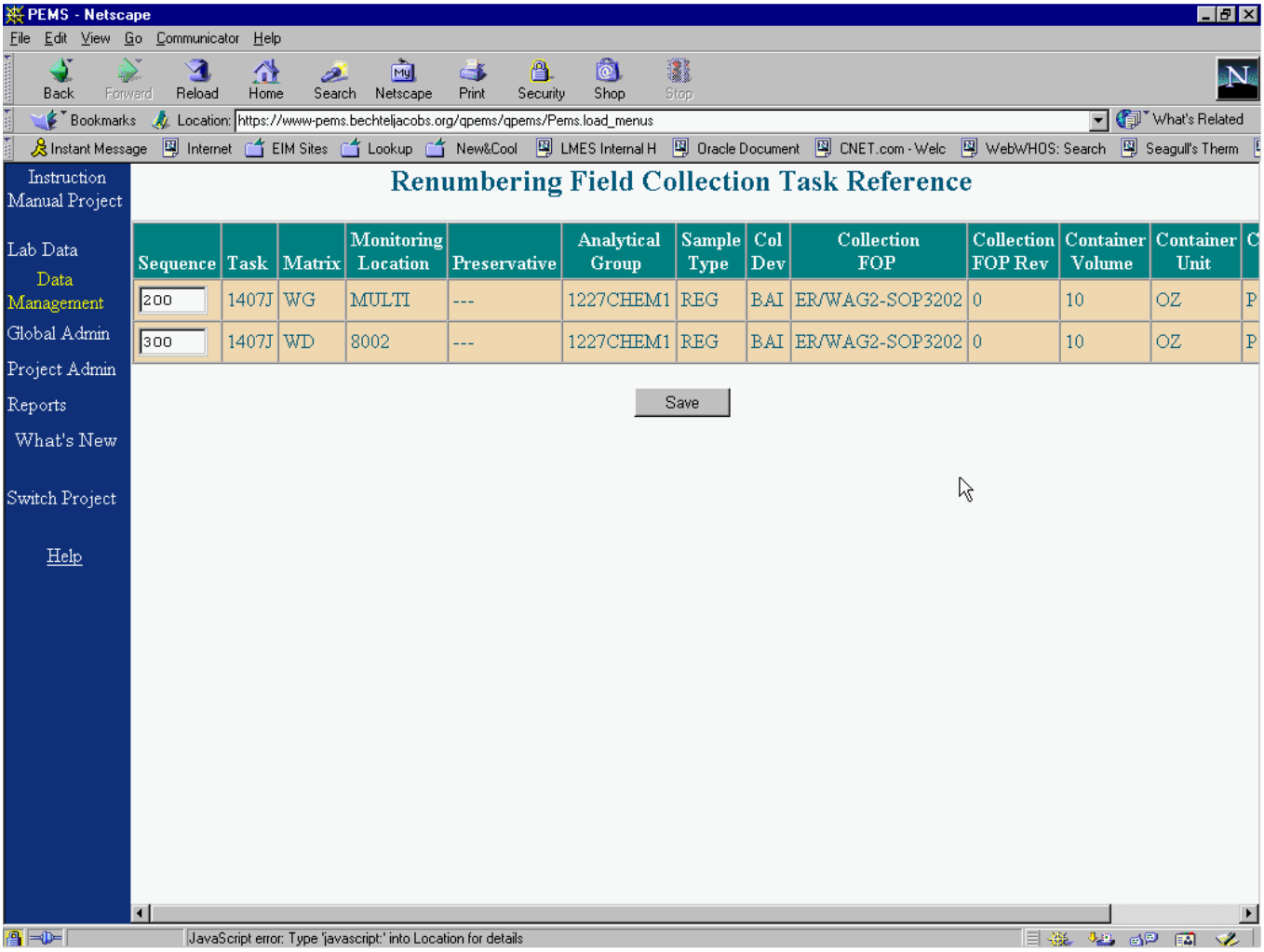


Figure 47

As before, each field sequence number value must be unique. Click on the 'Save' button to save the template and return to the Task Reference main screen. The Task Reference template may be modified at any time during the course of the project to add or remove records as needed. The user may set up all of the tasks for a project before continuing or set up just one task and continue on to the next phase of sample planning.

4.2.2 Field Collection Task Map

The Field Collection Task Map (FCTM) works with the template data stored in the Task Reference to create a more detailed sample plan. To access the FCTM, click on the 'Data Management' menu option in the left pane of the PEMS application to display the Data Management submenu. Click on the 'Field Collection Task Map' option to display the main screen of the Field Task Map, as shown in Figure 48.

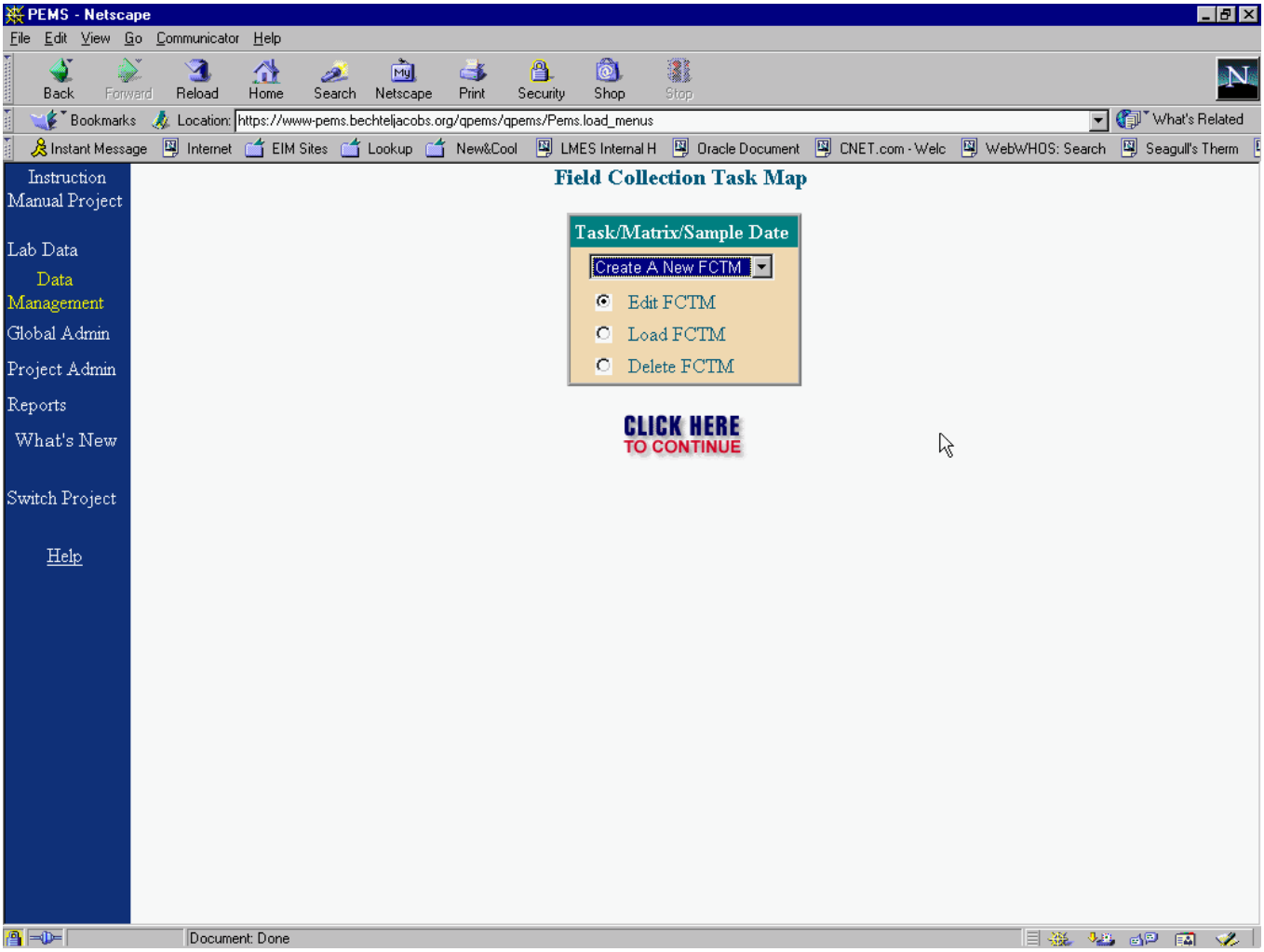


Figure 48

The main screen of the FCTM shows a drop-down list and 3 radio buttons. The drop-down list defaults to the 'Create A New FCTM' option and the radio button defaults to the edit option. The drop-down list contains all of the field task maps created for the project that have not been loaded. Since this is a new project, the list is empty. The radio buttons direct what action should be taken to the task map displayed in the drop-down list. The Delete FCTM radio button will delete the selected task map.

The Load FCTM radio button will analyze the selected task map to determine if it is valid and if so, will load the information in the task map into PEMS. The Edit FCTM radio button will invoke the field task map editor for the selected task map.

To create a task map, click on the 'Click Here to Continue' icon with the 'Create A New FCTM' option and the Edit FCTM radio button selected. Since this is a new task map, the editor will not be displayed. This screen displays a drop-down list, 2 check boxes and a field for data entry. The drop-down list contains all of the task codes and matrix combinations that are recorded in the Task Reference template. The data entry field is used to enter the planned date that the sampling for the selected task code/matrix combination will be performed. This value for this field defaults to the current date.

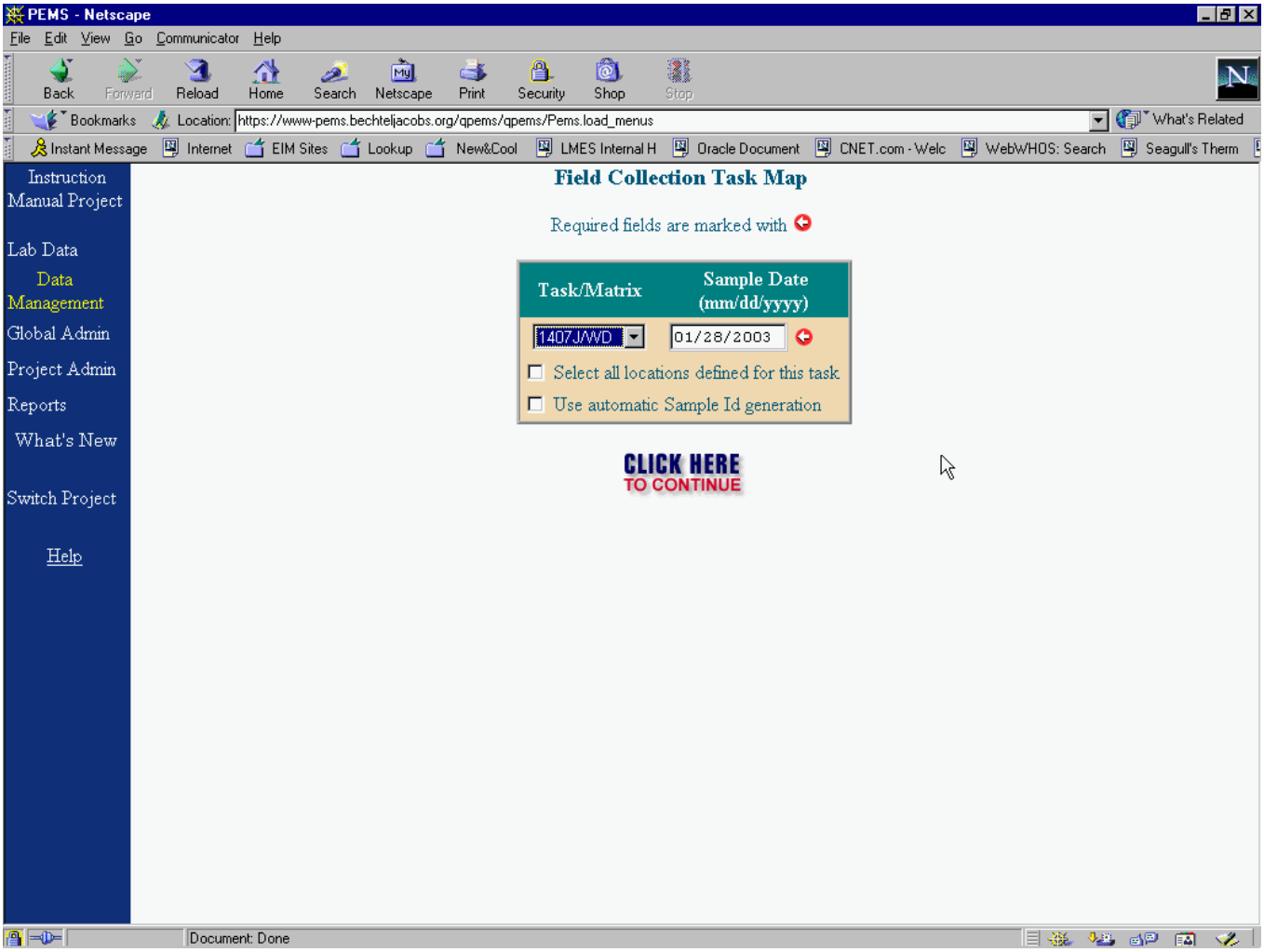


Figure 49

The first check box, 'Select all locations defined for this task', will automatically prepare a sample entry on the task map for every location that is defined for the task code. If this box is checked, the system will look at the locations defined for the task/matrix combination in the task reference template and use

that information to build the sampling locations. If this box is not checked, the system will look at the locations defined for the task and display that information on another screen, as seen on Figure 50. This screen will list the monitoring location id and description with a check box to the left of this data. By clicking on the check box(es) of the desired location(s) and then on the 'Click Here to Continue' icon, the field task map will be created.

The second check box, 'Use automatic Sample ID generation', is used to speed data entry by having the system generate the sample container identifiers (hereafter referred to as sample ids). If this box is checked, the system will generate sample ids for each sample record in the task map. These sample ids will be of the form 'SMPLxxxxxx', where xxxxxx is a unique number generated by the system. This option is typically used for high-volume sample plans where the value used for the sample id has no formatting specifications. In the initial display of the task map editor, the generated sample ids may not be changed. If the user would like to implement some combination of generated and non-generated sample ids, the sample ids may be changed by returning to the main menu of the Field Task Map application and re-editing the task map.

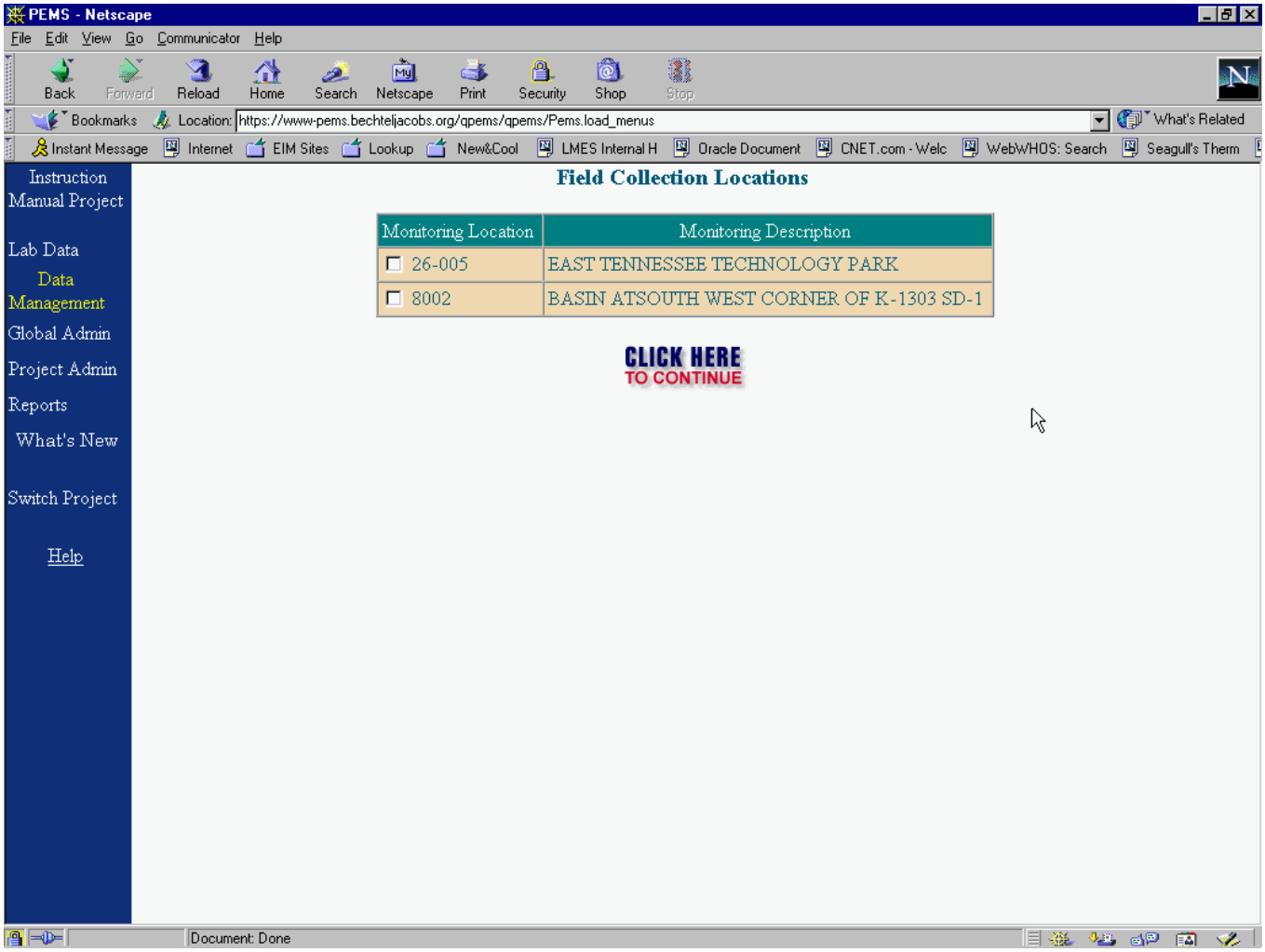


Figure 50

Once the information has been specified, the field task map is created and an edit screen is displayed as shown in Figure 51. None of the data entry fields are mandatory, as the task map may be created and edited at any time. The Sample ID field should contain the identifier of the container that will hold the collected sample. It is a 15-character, case-sensitive field that can be any alphanumeric character, as well as the following special characters: #, /, - and .(period). Every record on the task map must have a sample id before it can be transferred from the task map into the PEMS system. Since the task map is essentially a "what-if" document, the same sample id may be used on multiple task maps, but not inside the same task map. When task maps are loaded, however, a check is performed to determine if the new sample id(s) have already been used for the project. If so, the load is aborted and an error message is displayed to the user.

The Associated Sample ID field is mandatory only under certain conditions. For example, if a sample is designated as a Field Replicate (sample type of 'FR'), it must be associated with a regular sample (sample type of 'REG'). The sample id of the regular sample is entered into the Associated Sample ID field. A check is performed during the loading process to ensure that this field is populated when necessary.

The FCOC# field is used to record the form number of the Field Chain of Custody (FCOC) that will be used by the sample collectors in the field. It is a 15-character, case-sensitive field that will accept any alphanumeric character. This field can be used to separate the samples onto different physical documents. For example, specifying samples X and Y on FCOC# 1 and sample Z on FCOC# 2 will create 2 different documents for collecting these 3 samples.

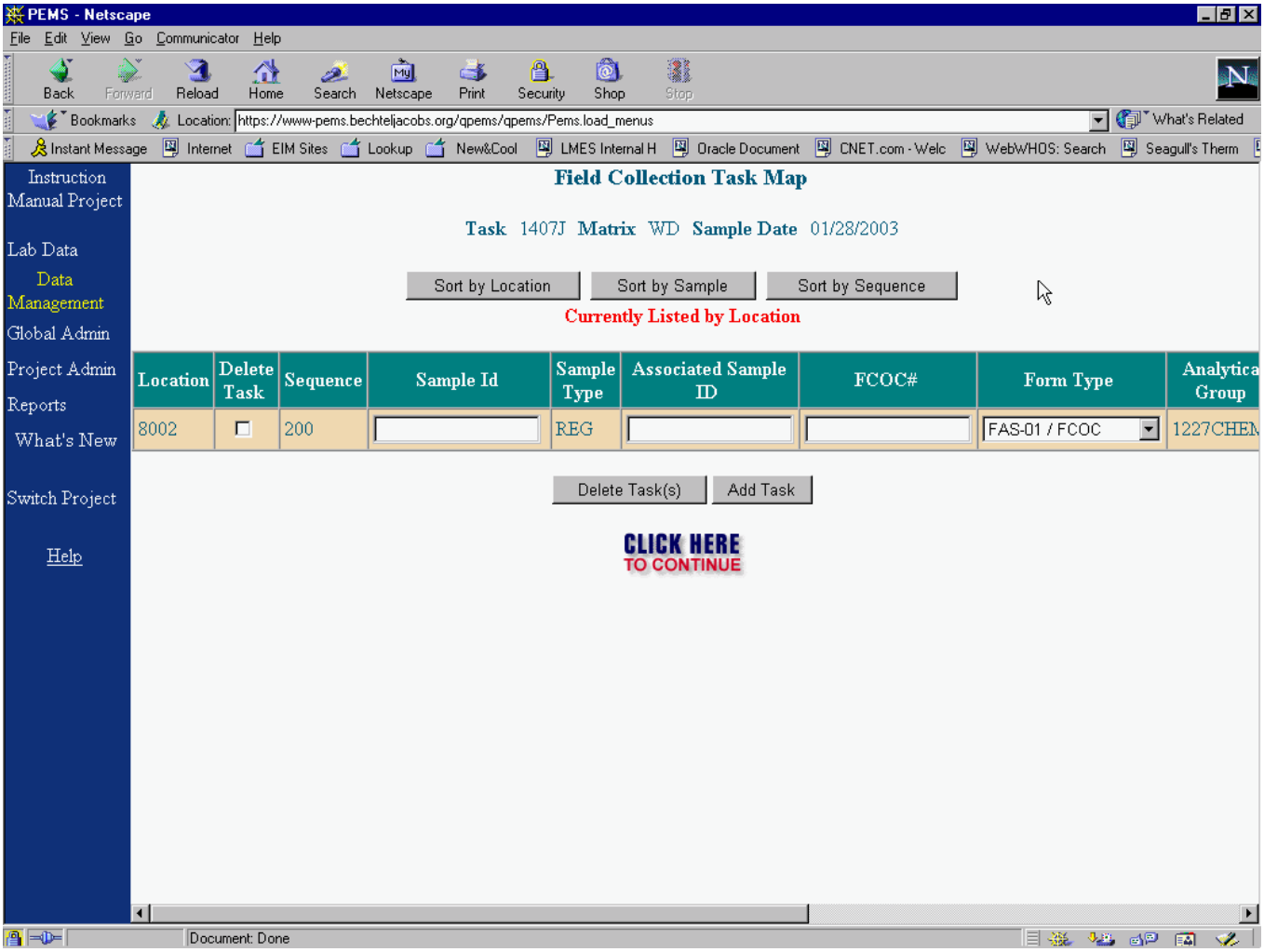


Figure 51

The Form Type field is a drop-down list that contains the document types supported by the PEMS system. Currently, PEMS supports the FCOC form and the Flow Paced Monthly Composite (FPMC) form. If a sample's document type is set to 'FCOC', that sample will be transferred to a FCOC document when the task map is loaded. The document can only be edited through the Field Chain of Custody application. If the document type is set to 'Composite', the sample will be transferred to an FPMC form when the task map is loaded. The Flow Paced Monthly Composite application must be used to edit the FPMC documents.

Unwanted samples on the task map may be removed by clicking on the 'Delete Task' check box, then clicking on the 'Delete Task(s)' button. Additional samples may be added by clicking on the 'Add Task' button, which displays an edit screen as shown in Figure 52. Since the task and the matrix are used in the definition of the task map, these fields are displayed, but cannot be edited. The other fields are the same as used for the task reference template, with the exception that the project location field is limited to those locations defined for the task. When data entry is complete, click on the 'Save Task' button to return to the task map editor. Note that the Sequence Number field has been automatically

supplied by the system. Any new sample added to a task map will be given a sequence number that is equal to the current maximum sequence number on the task map + 1. This is done to ensure uniqueness for each entry in the task map.

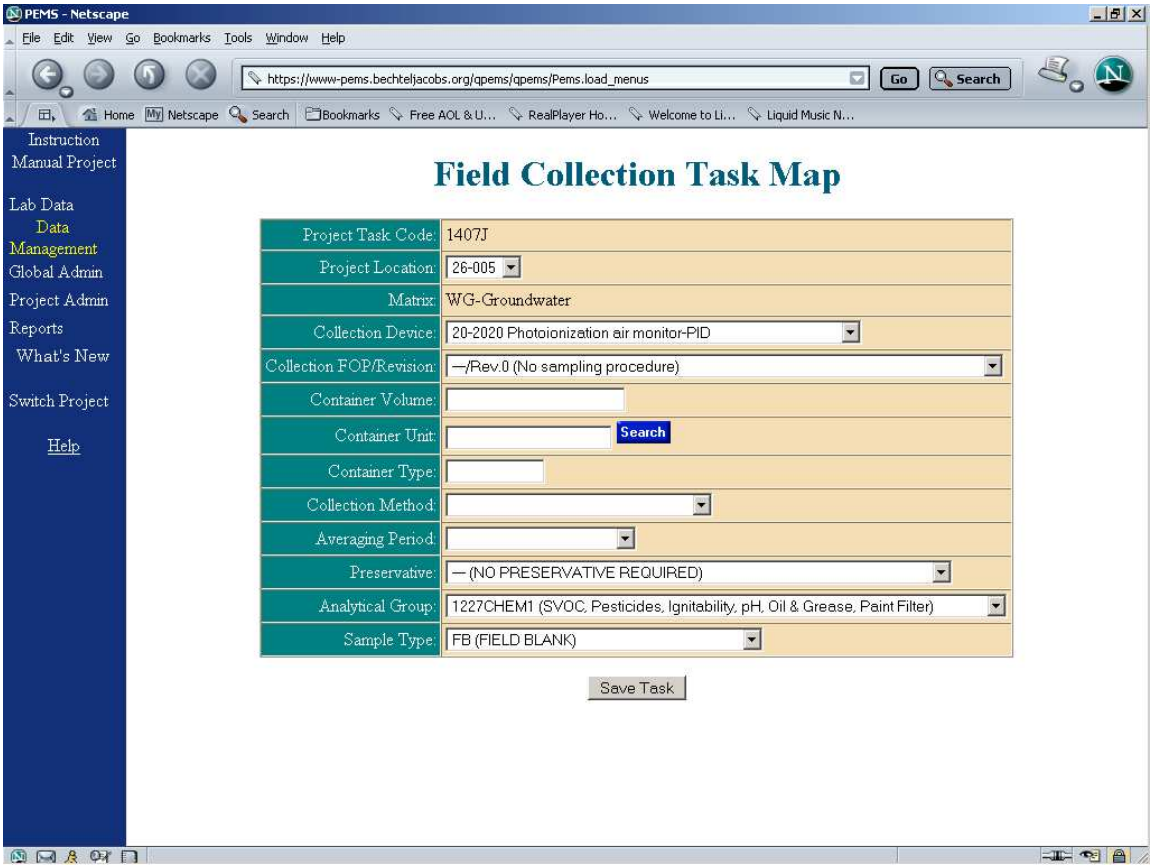


Figure 52

There are three sorting options for the data displayed in the edit screen, indicated by the buttons at the top of the page. The functions of sort match the text on the button. For example, the 'Sort by Location' button orders the display of the task map by ascending location identifier. All data entry on the task map edit screen is not saved until the user clicks on the 'Click Here to Continue' icon.
When the user clicks on this icon, some validations are performed on the entered data. If any problems are found, the user is informed via a pop-up alert. Otherwise, another screen is displayed that will confirm that the records have been saved. This screen is shown in Figure 53.

In addition to the status message, two more buttons are added to the top of the screen. The second button on this screen, 'Return to the FCTM Main Screen', will return the user to the main screen of the Field Task Map application. The first, 'Ready to Load Data for this FCTM', will attempt to perform the loading function on the currently displayed FCTM. This is equivalent to selecting the 'Load Data' radio button and picking a field task map from the Field Task Map main screen (Figure 49). Clicking on this button will execute a series of checks on the data to determine if it is valid for the PEMS system.

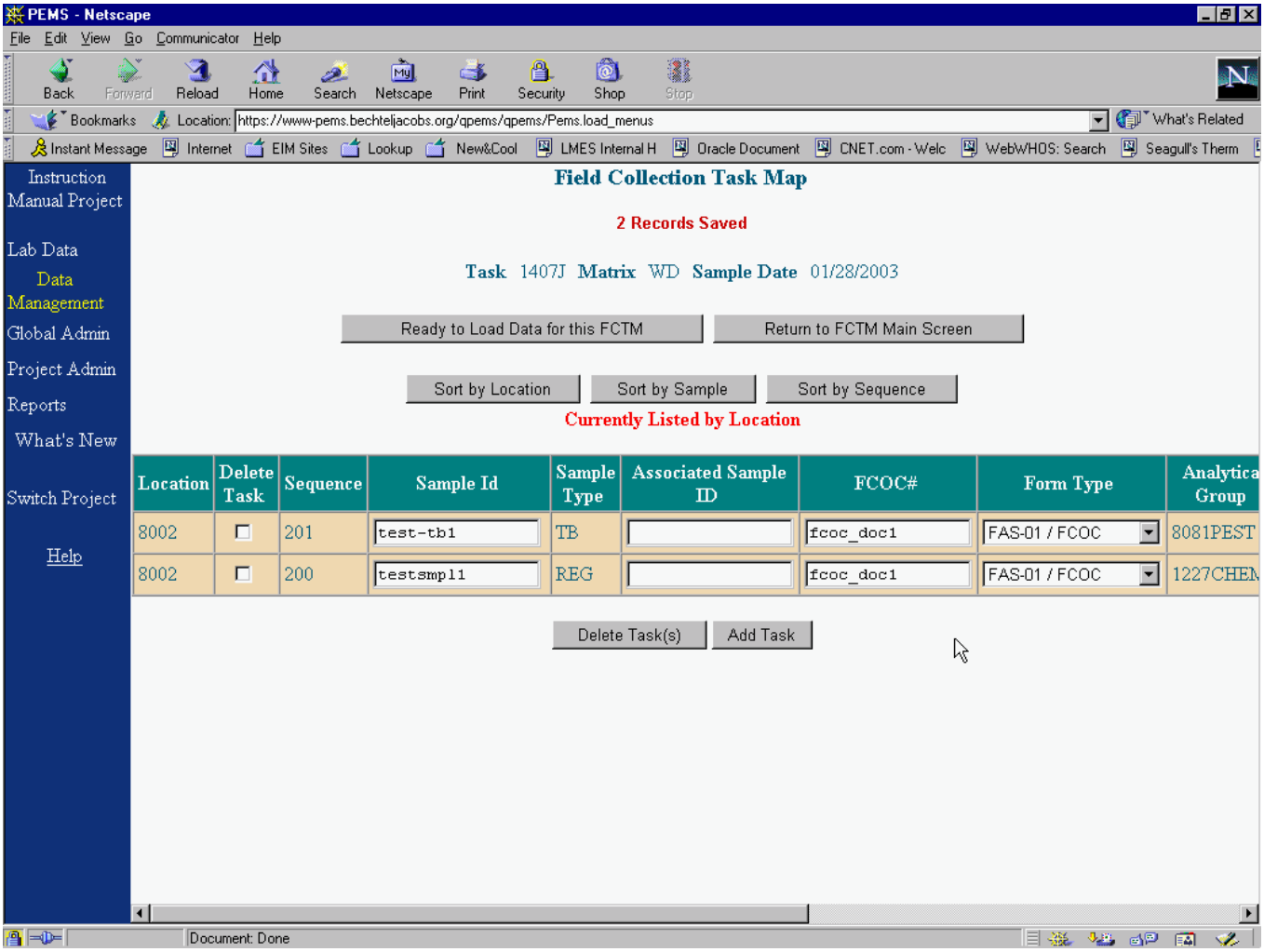

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Field Collection Task Map
2 Records Saved
Task 1407J Matrix WD Sample Date 01/28/2003
Ready to Load Data for this FCTM
Return to FCTM Main Screen
Sort by Location
Sort by Sample
Sort by Sequence
Currently Listed by Location
Location
Delete Task
Sequence
Sample Id
Sample Type
Associated Sample ID
FCOC#
Form Type
Analytica Group
8002
201
test-tb1
TB
fcoc_doc1
FAS-01 / FCOC
8081PEST
8002
200
testsmpl1
REG
fcoc_doc1
FAS-01 / FCOC
1227CHEM
Delete Task(s)
Add Task
Document: Done

Figure 53

These checks include, but are not limited to, a check for the uniqueness of the sample id, for the uniqueness of the form number and for the mandatory sample associations. An example of the output of this load is displayed in Figure 54.

If the loading operation is successful, the field task map is removed from the drop-down list on the Field Task Map main screen.

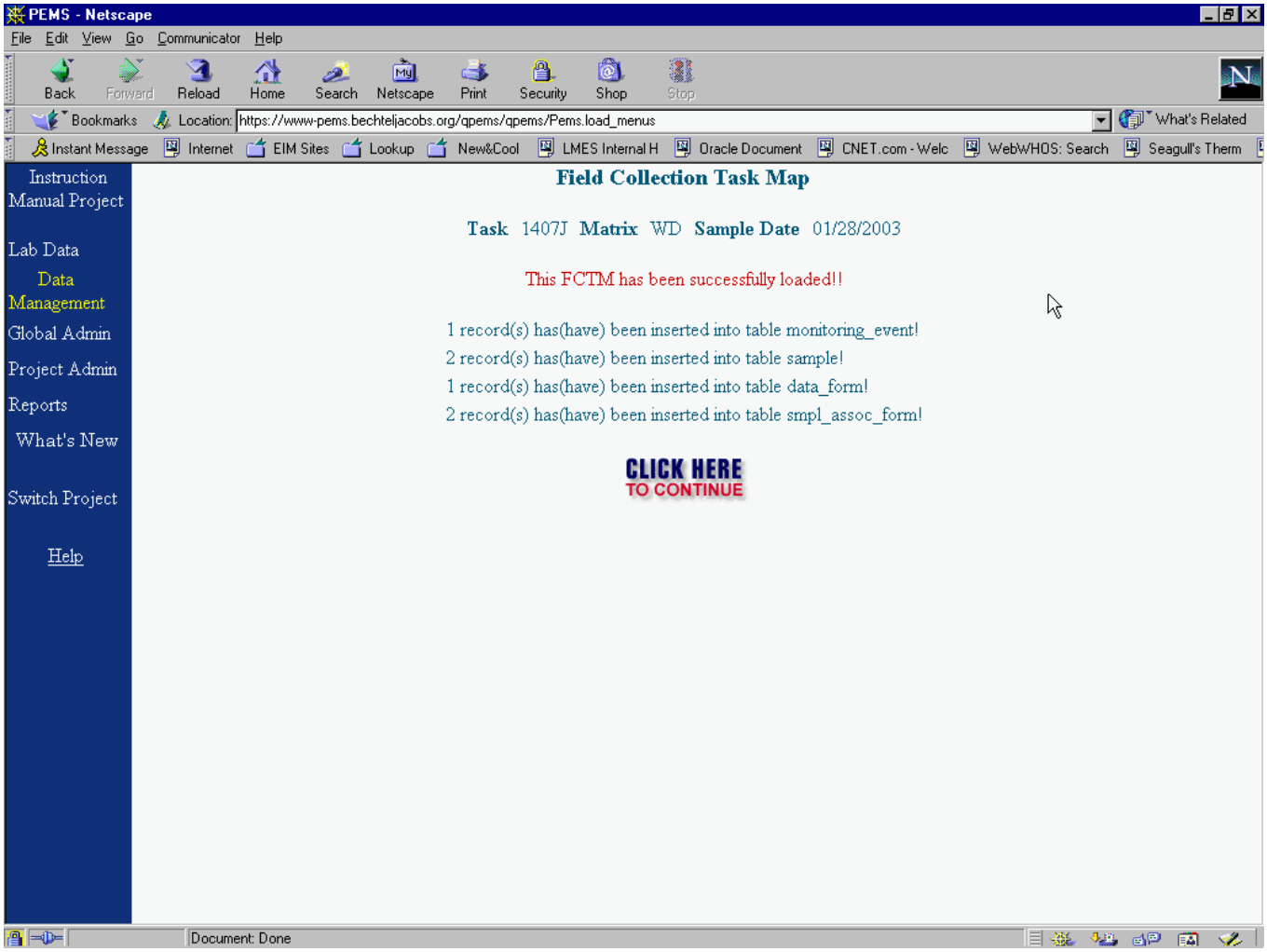


Figure 54

4.2.3 Field Chain of Custody (FCOC)

Clicking on the 'Click Here to Continue' icon on the loading status screen will display the main screen of the Field Chain of Custody application (See Figure 55), the next step in the sample planning process. The FCOC application is displayed because the majority of the samples are placed on a Field Chain of Custody form instead of the Flow Paced Composite form.

The FCOC main screen is divided into editing and printing operations. FCOC documents are edited by selecting a FCOC document from the FCOC Numbers drop-down list and the 'Edit FCOC' radio button (the default for this screen) and clicking on the 'Click Here to Continue' icon. By default, the FCOC Numbers drop-down list defaults to 'Create A New Field Chain Of Custody'. Since the loading of the task map created a FCOC, that FCOC will be used to illustrate the editing capabilities of the FCOC application.

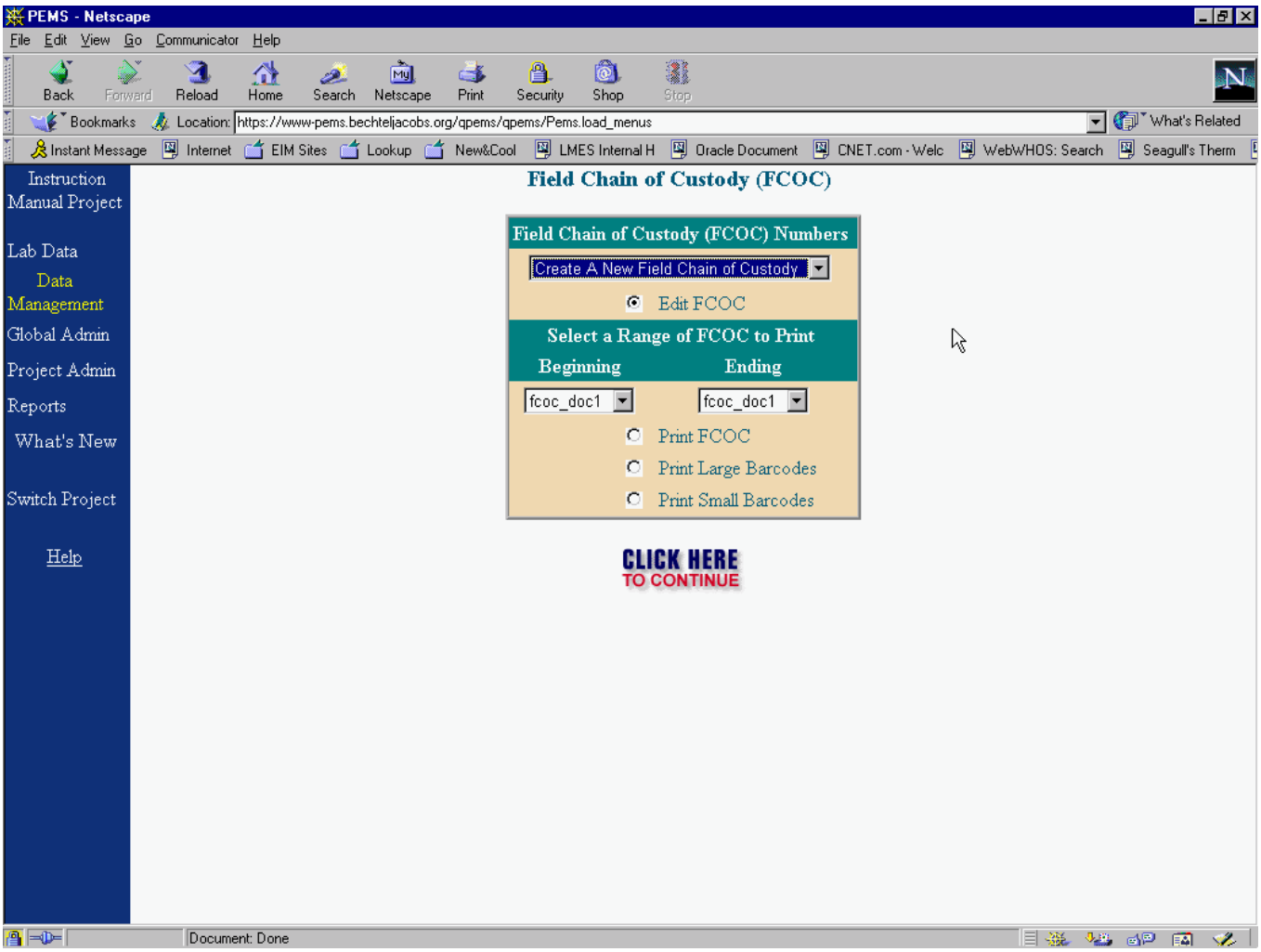


Figure 55

Figure 56 shows the initial edit screen of the Field Chain of Custody application. This screen is used to edit the information that will be common to all of the samples listed on the FCOC document. The Delete FCOC option will not be displayed if any of the samples on the FCOC are on a finalized LCOC or have results loaded. 'The Logbook No.' field is used to indicate the logbook used to record the sampling operation, if any. The Team Leader drop-down list corresponds to a list of personnel in the 'Badged Person' support table. If the team leader is not listed in the drop-down list, that person can be added by using the 'Badged Person' application (refer to the Global Administration section of this document for more information). The 'No Team Leader' selection is the default value for this field.

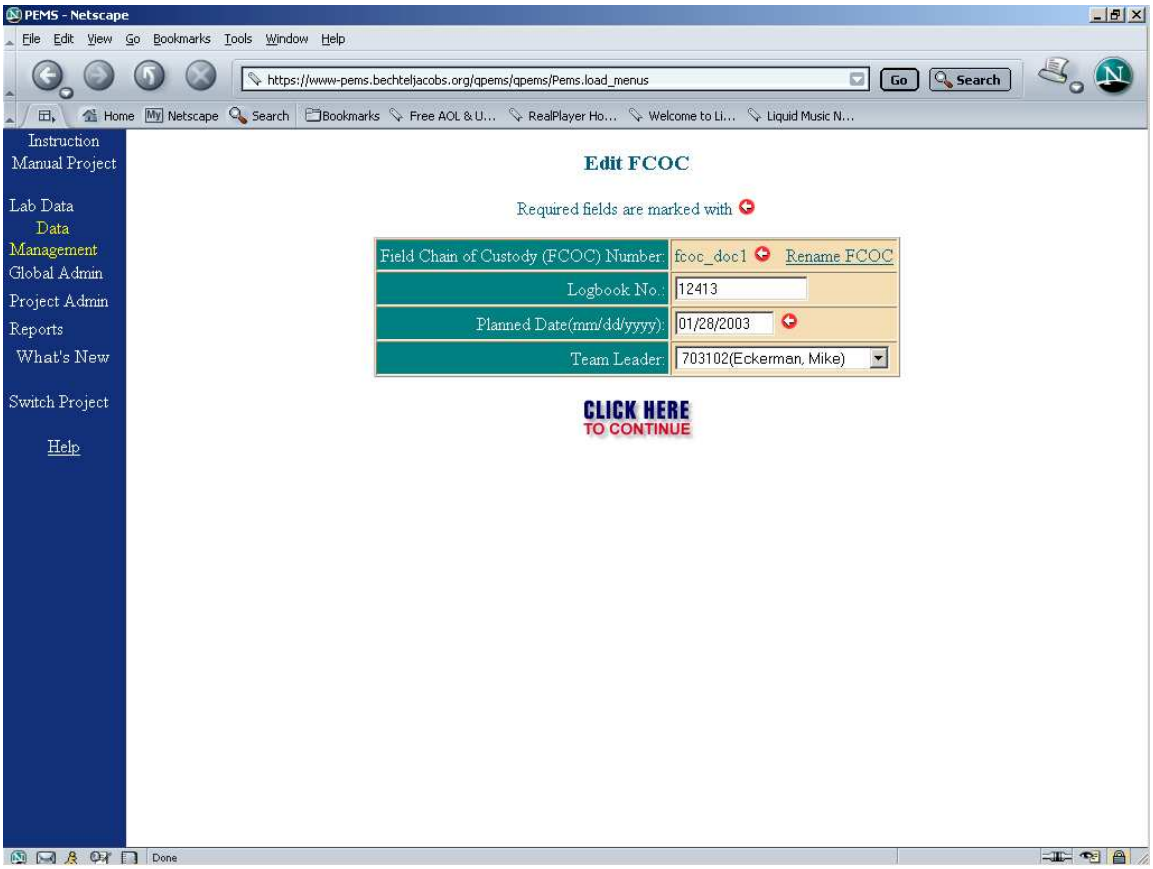


Figure 56

There are 2 additional functions on this screen that are represented by links. The 'Rename FCOC' link allows the user to change the document number for the FCOC. Clicking on this link will display a popup prompt for the new FCOC document number, as shown in Figure 57. The new FCOC number cannot be a number that is used by any other FCOC for the current project. Clicking on the 'OK' button

will rename the FCOC to the new document number. Clicking on the 'Cancel' button will return the user to the initial edit screen.

The 'Delete FCOC' link will display a prompt asking the user to confirm the operation, as shown in Figure 58. Clicking on the 'OK' button will delete the FCOC and all of the samples associated with it from the PEMS system. Clicking on the 'Cancel' button will return the user to the initial edit screen.

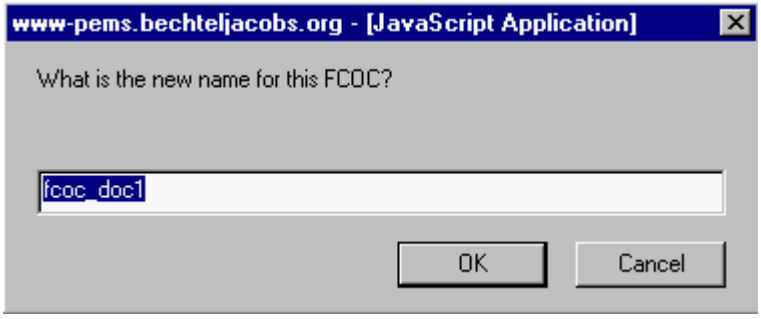


Figure 57

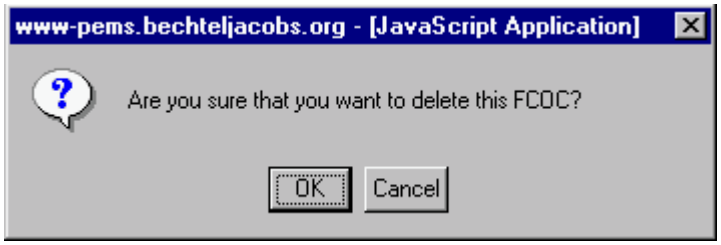


Figure 58

Clicking on the 'Click Here to Continue' icon will display the Choose Sample screen for the Edit FCOC application (See Figure 59). The header information from the previous screen is displayed at the top of the page. The user interface consists of a drop-down list, a 'Back' button and a 'Click Here to Continue' icon. The 'Back' button will return the display to the previous screen. The 'Click Here to Continue' icon will execute the function currently displayed in the drop-down list. The drop-down list contains 2 command options, which are followed by a list of the samples currently associated with the FCOC. The

command options are ‘Create a New Sample ID’ (which is the default) and ‘Add Samples Using Task Map’.

Figure 59

When the ‘Create a New Sample ID’ option is selected and the icon is clicked, the Edit Sample screen is displayed, as shown in Figure 60. Depending on the resolution of the user’s PC, there may be a scroll bar on the right side of the screen. The same rules apply for sample id values as in previous applications. All of the fields displayed on this screen are fields that have been seen previously on the Field Task Reference and Field Task Map applications, with five exceptions. The first exception is the Clean Lot No. field. This field is used to hold the lot number used by the manufacturer of sample bottles to ensure that they are free from contaminants.

The next three of these exceptions are displayed on the screen as the Top Depth, Bottom Depth and Depth Unit fields. The Edit Sample screen for the FCOC application is the only place in PEMS where the sample depth information can be recorded. The Top and Bottom Depth fields are numeric and will

accept decimal values. The Depth Unit field is limited to either feet or inches. These fields are required for samples in a soil matrix taken at a borehole or geoprobe location

The final exception is the Comments field, which is used to enter additional information about the sample. Examples of what values this field might contain include, but are not limited to, special collection or handling instructions to the field samplers or reasons for the collection of the sample.

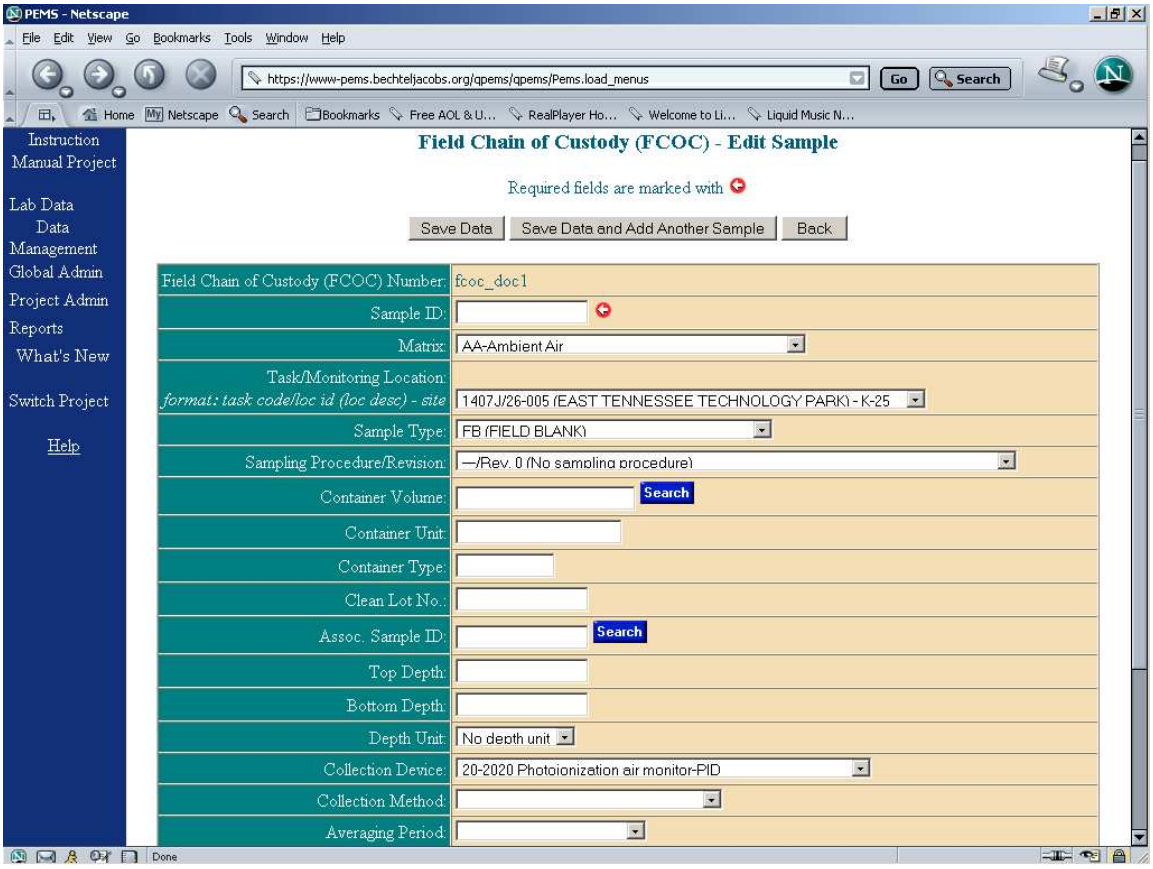


Figure 60

The Associate Sample field is the same as the displayed in the Field Task Map. However, a search button has been added. Clicking on this button will display a pop-up window that lists all of the regular samples that are planned for that location on the FCOC. The Associate Sample is only required when the sample type is Field Replicate ('FR')

The buttons on the Edit Sample screen work in the same way as those on the Field Task Reference edit screen.

The second command option, Add Samples Using Task Map, displays an intermediate screen that contains a drop-down list and a 'Click Here to Continue' icon as shown in Figure 61. The drop-down list contains all of the Field Task Maps for the current project, whether or not they have been successfully loaded.

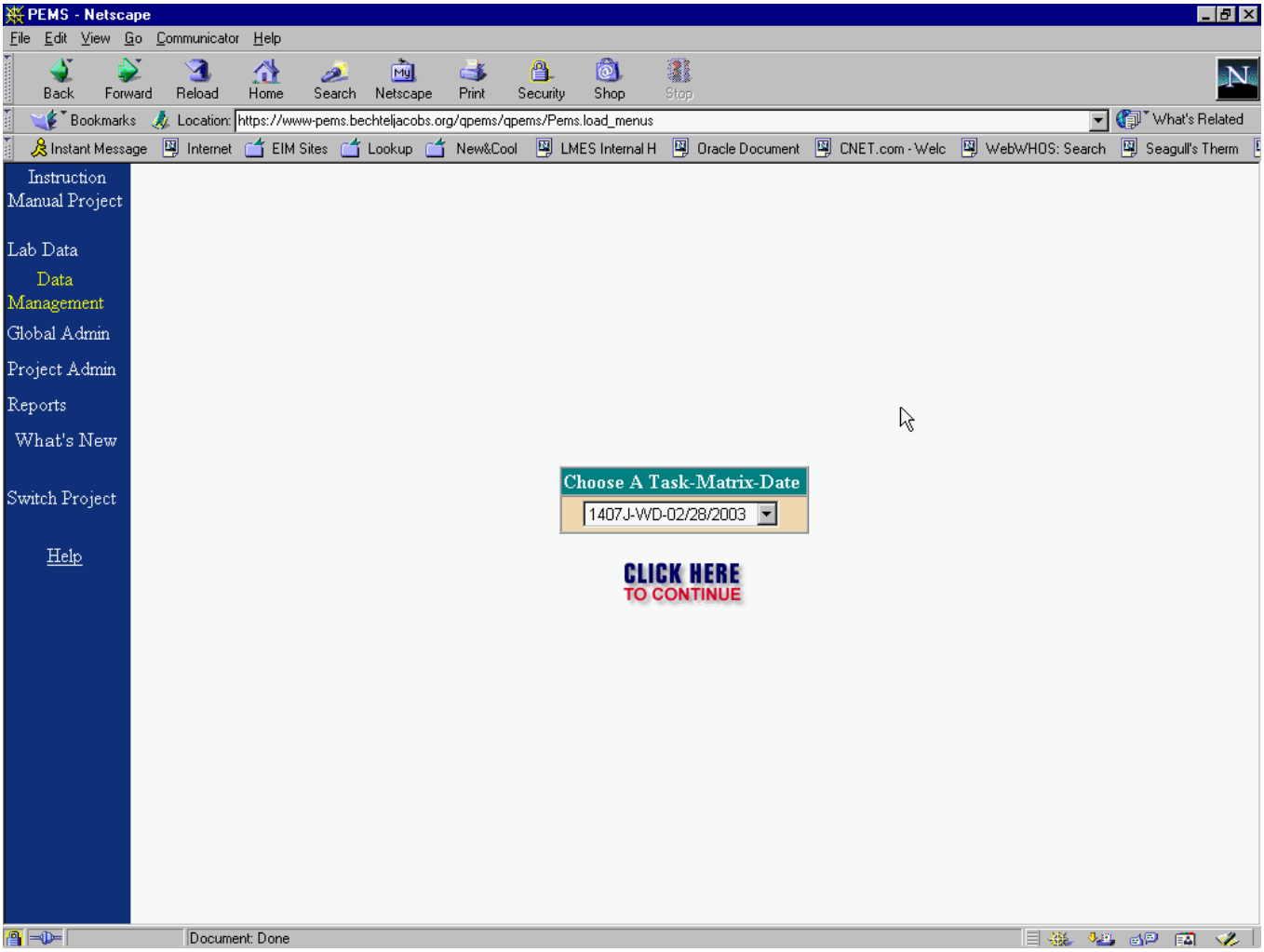

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Choose A Task-Matrix-Date
1407J-WD-02/28/2003
CLICK HERE
TO CONTINUE
Document: Done

Figure 61

After selecting the appropriate Task Map and clicking on the icon, the 'Choose Task Reference Samples' screen is displayed (See Figure 62). This screen contains all of the general fields of the selected Task Map and a check box at the left side of the screen. The "general" fields are those fields that do not uniquely identify the sample. Fields that are not displayed on this screen are the FCOC form number (specified by the FCOC that is being edited), sample id, associate sample id and sampling procedure. These fields may be entered on the Edit Sample screen. By default, all of the samples on the task map are pre-selected. Clicking on the checkbox will exclude the sample from the insertion process.

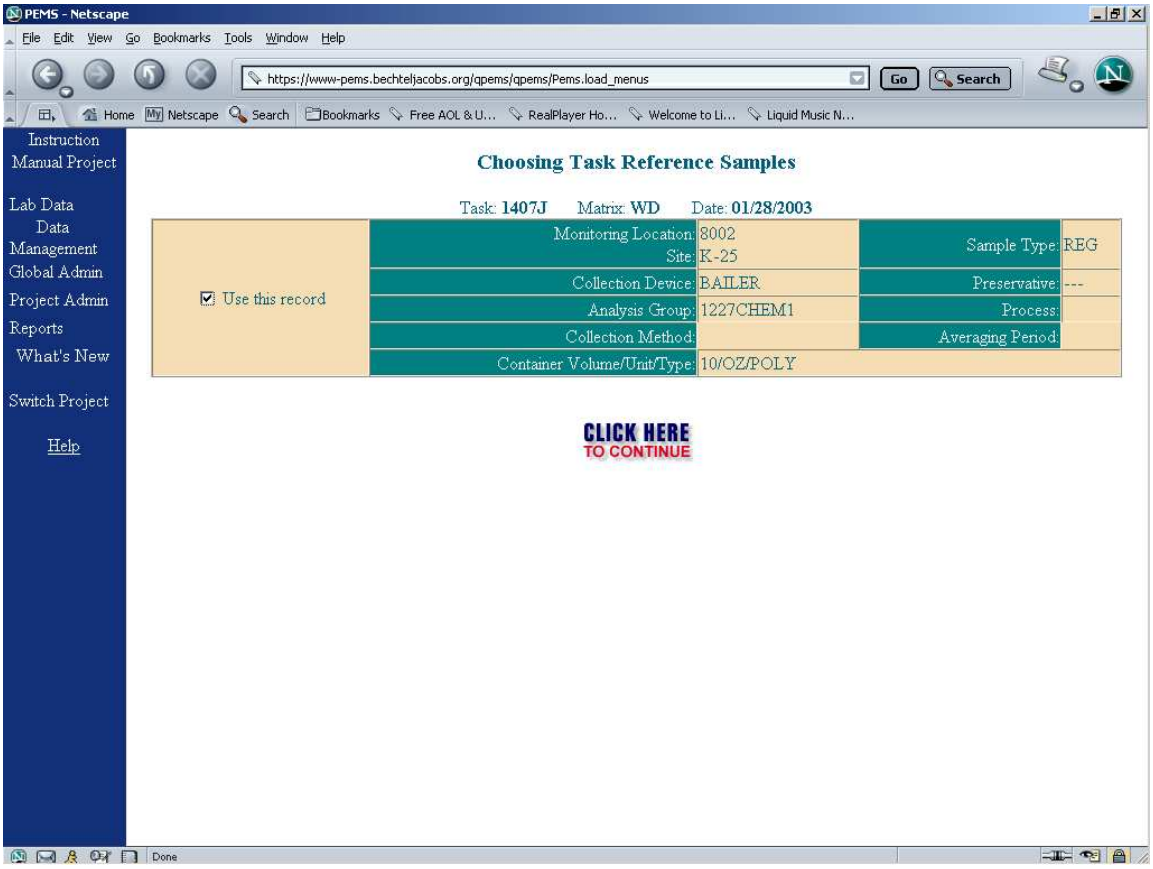


Figure 62

When all of the samples have been selected from the Task Map, click on the 'Click Here to Continue' icon. This will display 'Adding Samples By Task Reference' screen where the user can enter the sample id(s) for the record(s) that had been selected (See Figure 63). The identifying information for the Field Task Map is no longer displayed and the checkbox has been replaced with an input field for the sample id. After entering the sample id, click on the continue icon to complete the insertion of the new sample(s) into the FCOC and return to the main screen of the Field Chain of Custody application. Note

that the entered sample id will be converted to uppercase text by the insertion process. Also, even though the sample procedure in the Field Task Map is not displayed on the 'Choosing Task Reference Samples' screen, the procedure as defined in the Field Task Map is inserted with the sample information into the FCOC. The user may need to edit the inserted samples on the Edit Samples screen to add additional information such as sample depth, comments or associated sample ids.

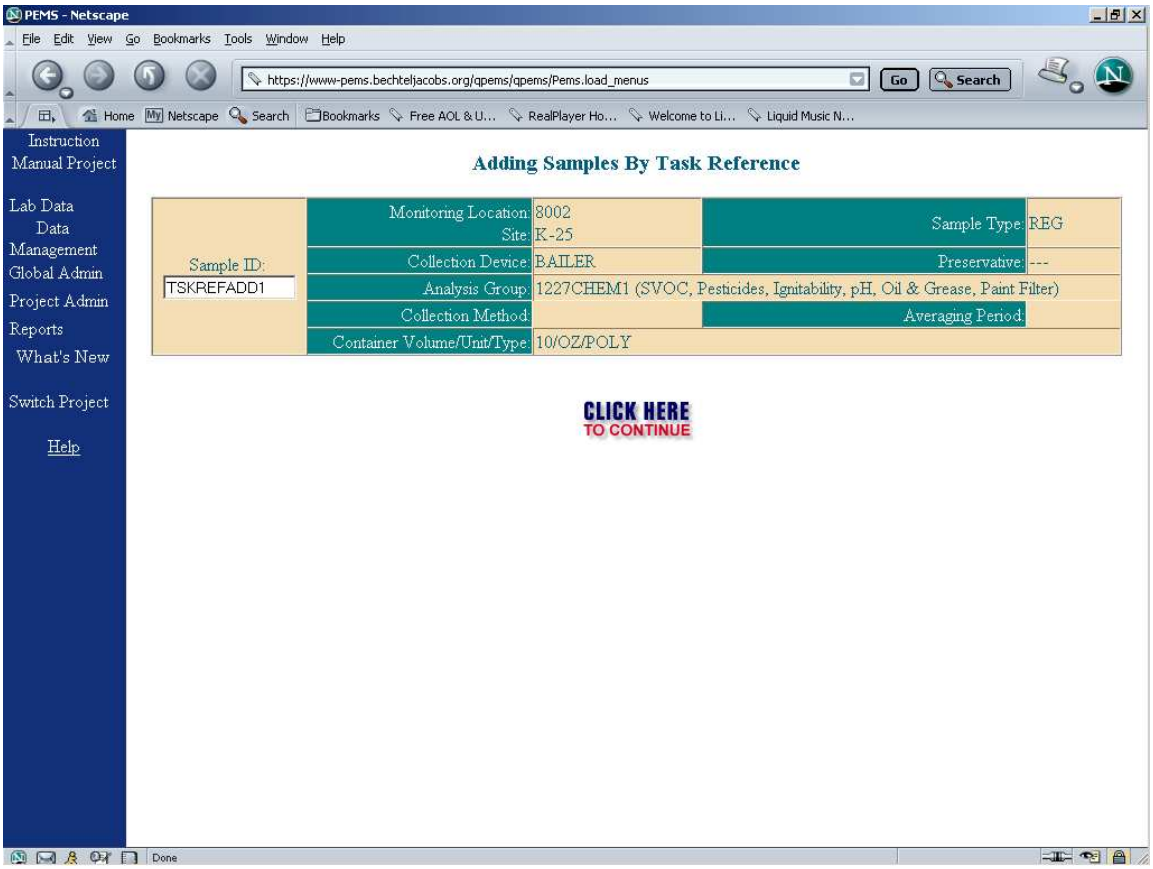


Figure 63

4.2.3.1 Printing FCOCs and Labels

Multiple FCOCs may be printed by selecting the starting and ending form number, clicking on the 'Print FCOC' radio button and then clicking on the continue icon. This will bring up the same save/open prompt as the print operation for a single FCOC. The 'save' operation will proceed as it did for printing a single document. The 'open' operation will open all of the selected documents with each FCOC being displayed on a different page in the overall file.

The remaining print operations for the FCOC application deal with the printing of barcode labels. To successfully print barcode labels, the user must have the barcode fonts installed on their PC. These fonts

are available from the PEMS Home Page, if they are not installed. From the PEMS Home Page, select the 'Barcode Downloads' option from the left pane, and then click on the 'Download Code 39 Bar Code Fonts' link. This will transfer a self-extracting ZIP file that contains the fonts to the user's PC. When the ZIP file is executed, the font files are created in the directory where the ZIP file was transferred. Installation of the fonts will vary depending on the operating system. For Windows NT/2000, these font files should be placed in the %systemroot%\Winnt\Fonts directory, which is typically C:\Winnt\Fonts. If the fonts are properly installed, any text written in the Code 39 font in a Word or similar word processor will appear as a barcode.

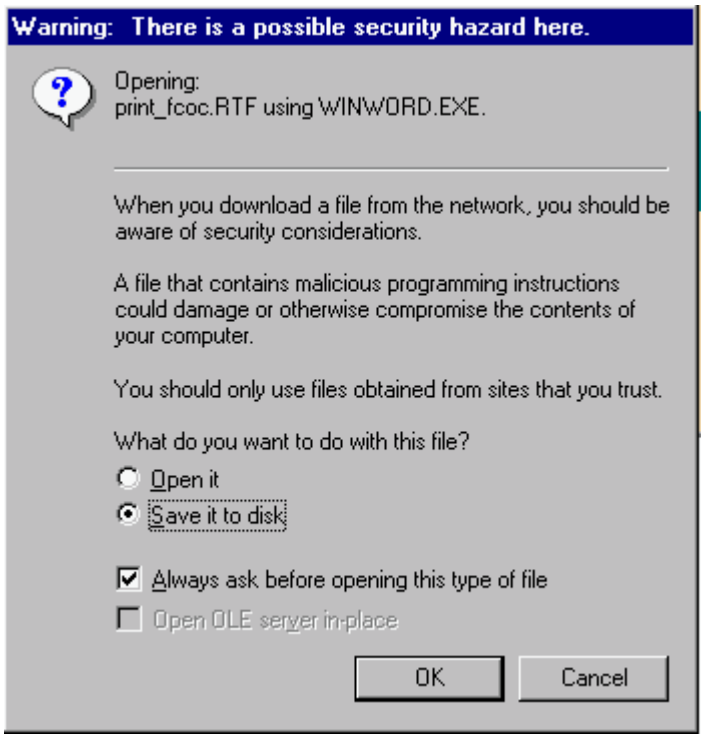


Figure 64

Now that an FCOC has been defined, it can be printed for distribution to the field samplers. To accomplish this, select the range of FCOC documents to print using the drop-down lists, click on the 'Print FCOC' radio button on the FCOC main menu and click on the continue icon. Each drop-down list contains all of the FCOC documents that exist for the current project, sorted alphanumerically by form number. Depending upon the browser being used to access PEMS, a prompt will be displayed to the user asking if the file should be saved or opened. This prompt will be similar to Figure 64, which is the prompt displayed for a Netscape version 4.7 browser. If the 'save' option is selected, PEMS will display another prompt asking for the name of the file to be created. The destination of the file is dependent upon the browser being used, but the file itself will be in Rich-Text format. If the 'open' option is selected, PEMS will use whichever application has been defined in the user's browser for viewing/printing Rich-Text formatted files. If the number of samples on the FCOC is large, the output will flow onto other pages. An example of a FCOC document as displayed by the word processor is shown as Figure 65.

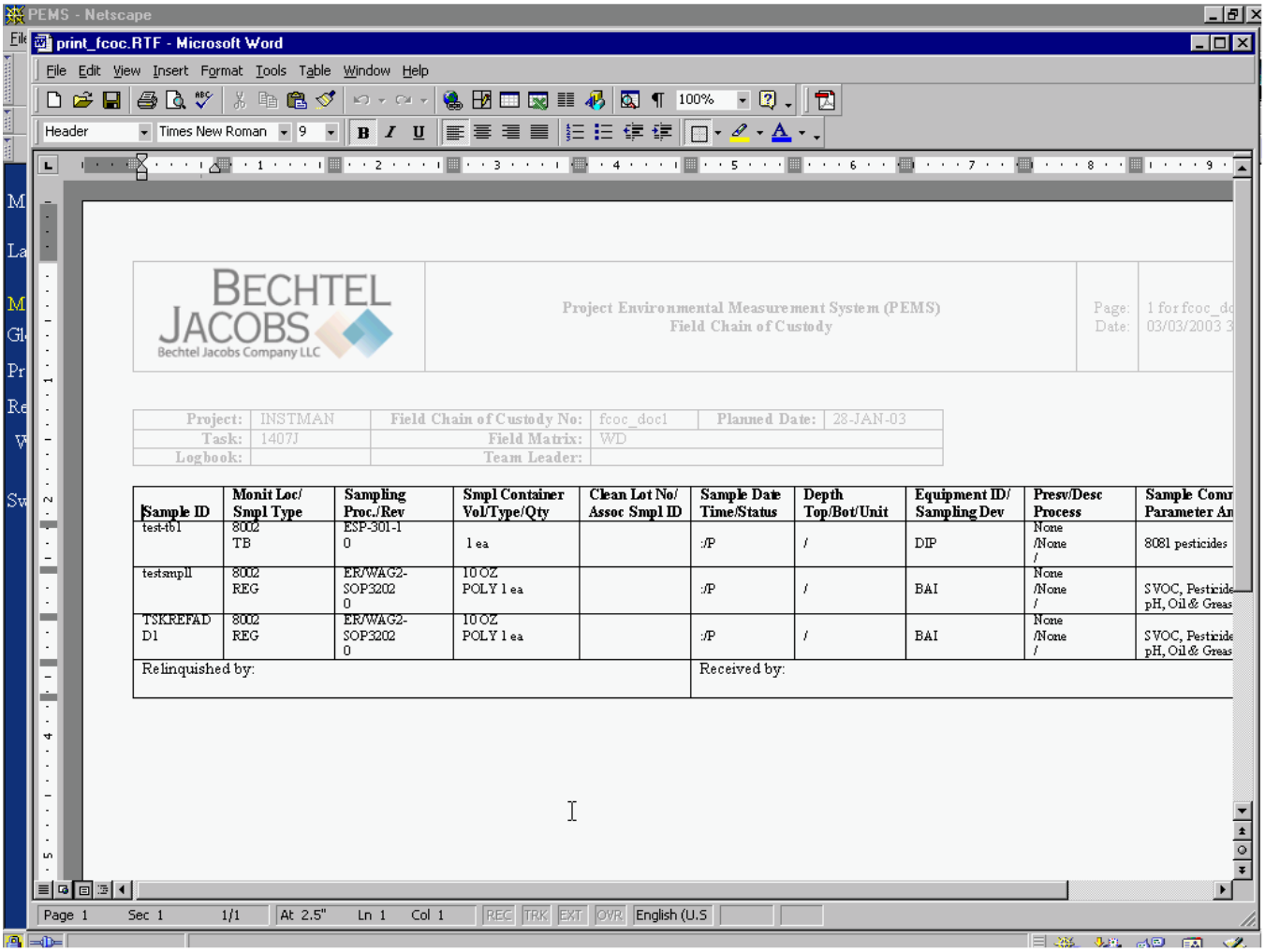


Figure 65

Users may print large barcode labels with the 'Print Large Barcodes' radio button or small barcode labels with the 'Print Small Barcodes' radio button. (See section 5.3) The large barcode labels are 3 inches high by 4 inches wide in size. The small barcode labels are 1 inch high by 2 inches wide. Selecting the large barcode radio button will display a selection screen, as shown in Figure 66. This screen lists all of the samples currently on the FCOC on the left and a diagram showing the number and position of labels that will fit on an 8 ½ x 11 page of label stock. With the appropriate label stock and the barcode fonts installed, labels can be printed using a standard laser printer, avoiding the need for a barcode printer. To make the most efficient use of label stock, click on the starting position of the first label in the diagram. By selecting the 'Open' option on this prompt, the browser will open the default application for Rich-Text files to display the barcode output. An example of this output is shown as Figure 67. The barcodes may be printed immediately from the word processor or the file can be saved for later printing, as needed.

Note that there may be multiple copies of a barcode label for a sample or samples on the output. This is not an error. During the Project Definition phase, Parameter Analysis Groups were selected for the project. At that time, the number of labels that should be printed for the group code was entered. The barcode printing program uses the Parameter Analysis Group code and the number defined by the project to determine how many labels should be printed for the sample.

Small barcode labels are printed in the same manner as the large barcode label. They, too, will print multiple copies depending on the definition of the Parameter Analysis Group for the samples being printed. On selecting this option, a selection screen will be displayed, with the exception that more labels may be printed on a page. Depending on project operations, barcode labels may or may not need to be printed.

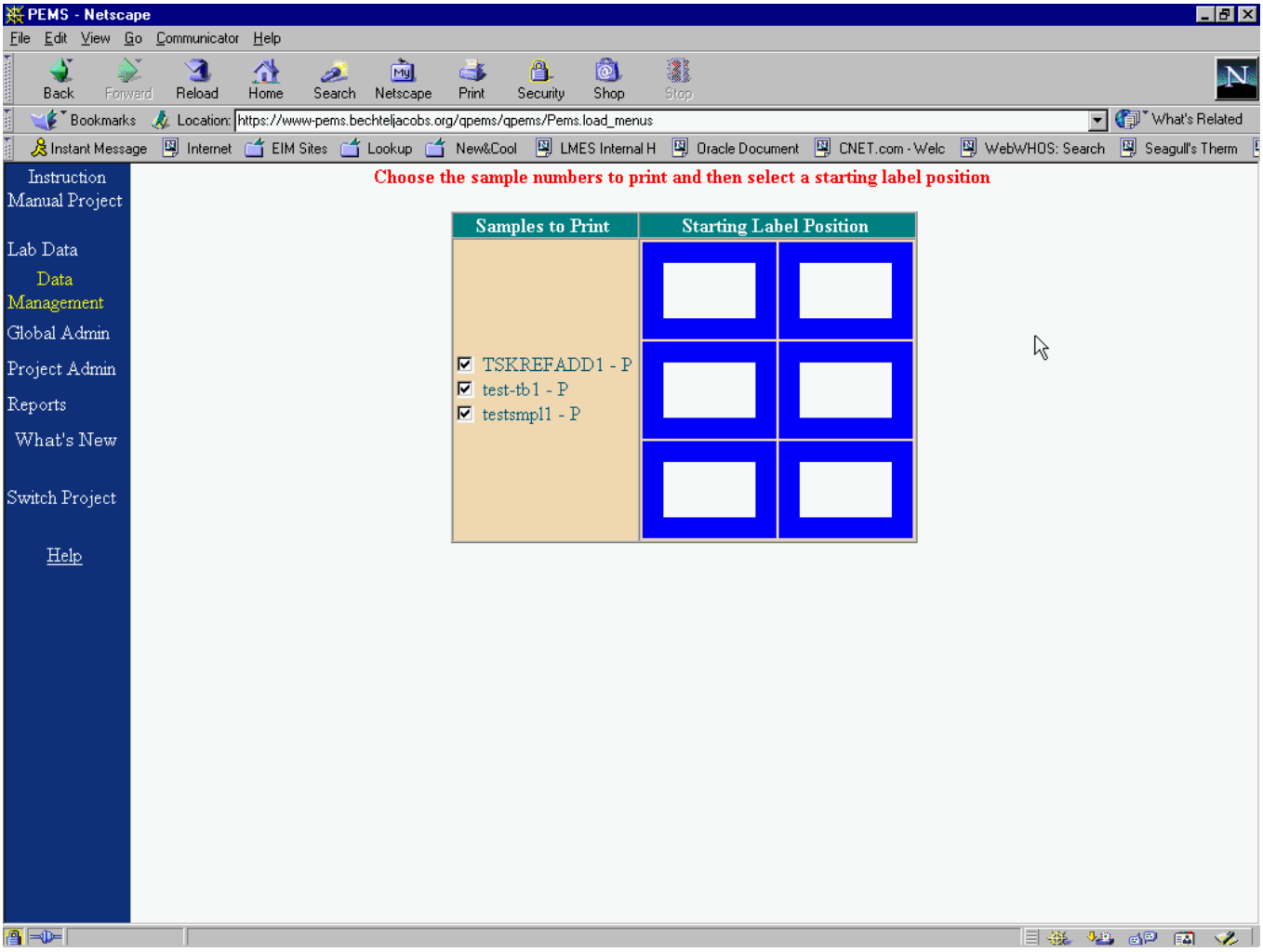


Figure 66

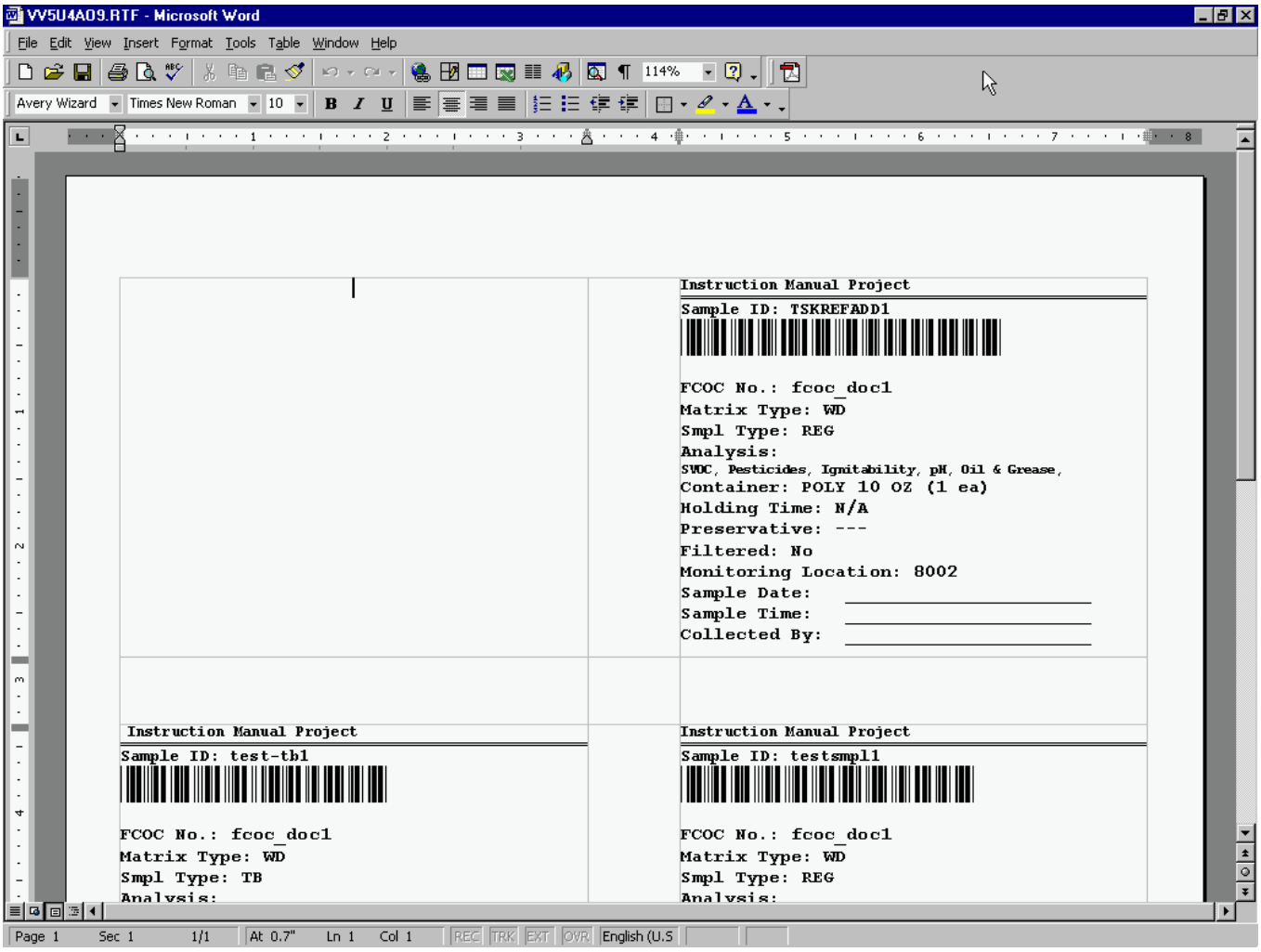

VV5U4A09.RTF - Microsoft Word
File Edit View Insert Format Tools Table Window Help
Avery Wizard
Times New Roman
10
Instruction Manual Project
Sample ID: TSKREFADD1
FCOC No.: fcoc_doc1
Matrix Type: WD
Smpl Type: REG
Analysis:
SVOC, Pesticides, Ignitability, pH, Oil & Grease,
Container: POLY 10 OZ (1 ea)
Holding Time: N/A
Preservative: ---
Filtered: No
Monitoring Location: 8002
Sample Date:
Sample Time:
Collected By:
Instruction Manual Project
Sample ID: test-tb1
FCOC No.: fcoc_doc1
Matrix Type: WD
Smpl Type: TB
Analysis:
Instruction Manual Project
Sample ID: testsmpl1
FCOC No.: fcoc_doc1
Matrix Type: WD
Smpl Type: REG
Analysis:
Page 1
Sec 1
1/1
At 0.7"
Ln 1
Col 1
English (U.S

Figure 67

4.2.4 Flow Paced Monthly Composite (FMPC)

When the Field Task Map was created earlier in this manual, the user had the option to specify either a 'FAS-01 / FCOC' or 'SW-08 / Composite' form type. Usually, a FCOC form type will be specified, but FPMC operations are another possible sample plan. By selecting the FPMC form type, the samples and other planning information will be associated with an FPMC form.

To complete the FPMC form information, the user should select the 'Flow Paced Monthly Composite' application from the Data Management menu. This will display the main screen of the application, as shown below.

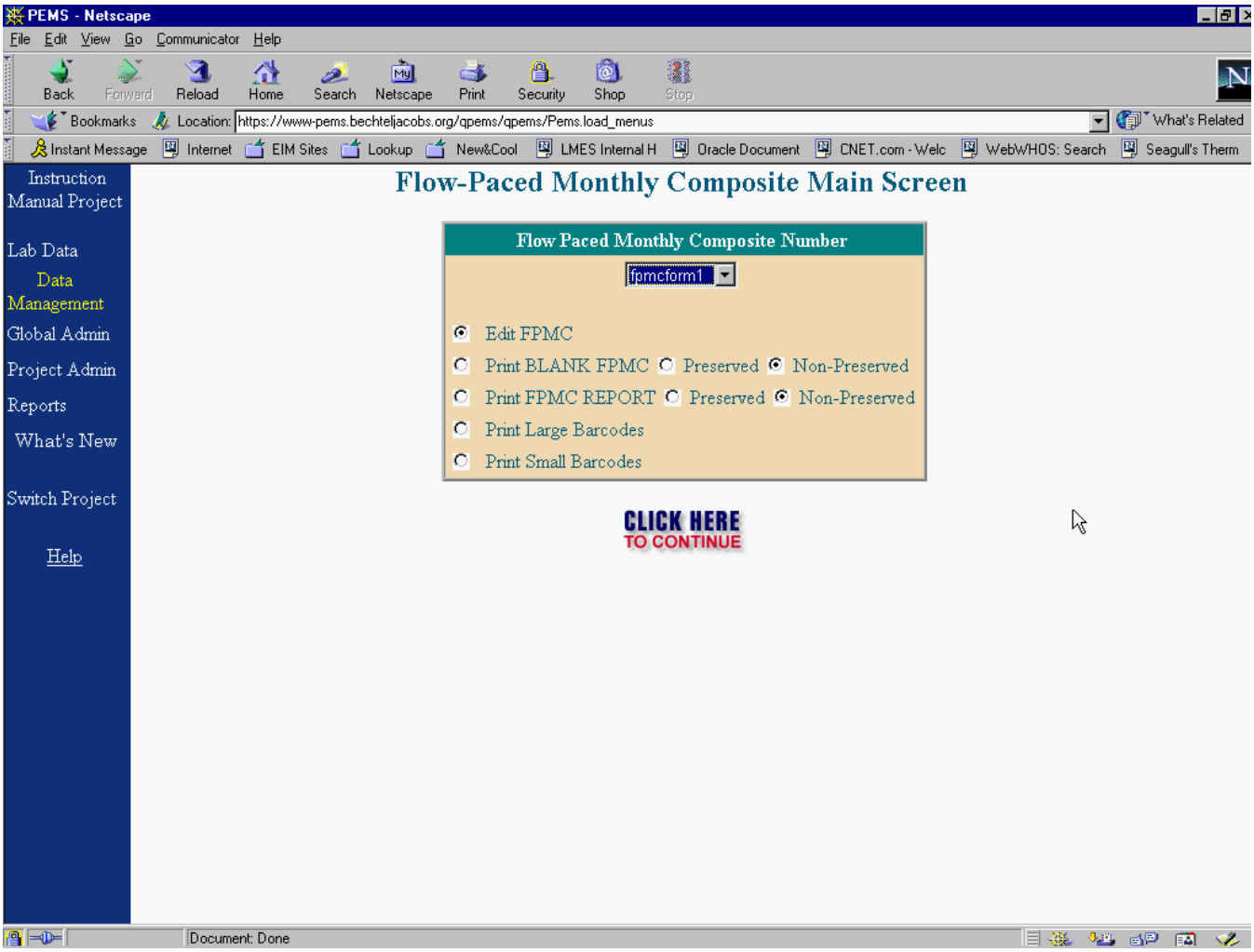


Figure 68

The drop-down list of the FPMC application shows all of the current FPMC forms available for editing. By default, the 'Edit FPMC' radio button is selected. Clicking on the 'Click Here to Continue' icon will display the Edit Screen for the FPMC form header information, as shown in Figure 69. After entering the header information and clicking on the continue icon, the detail edit screen will be displayed. The content of the detail edit screen may vary, depending upon whether or not the sample was specified as Preserved or Non-Preserved on the header screen. The screen for preserved samples is shown in Figure 70 and the screen for non-preserved samples is displayed as Figure 71.

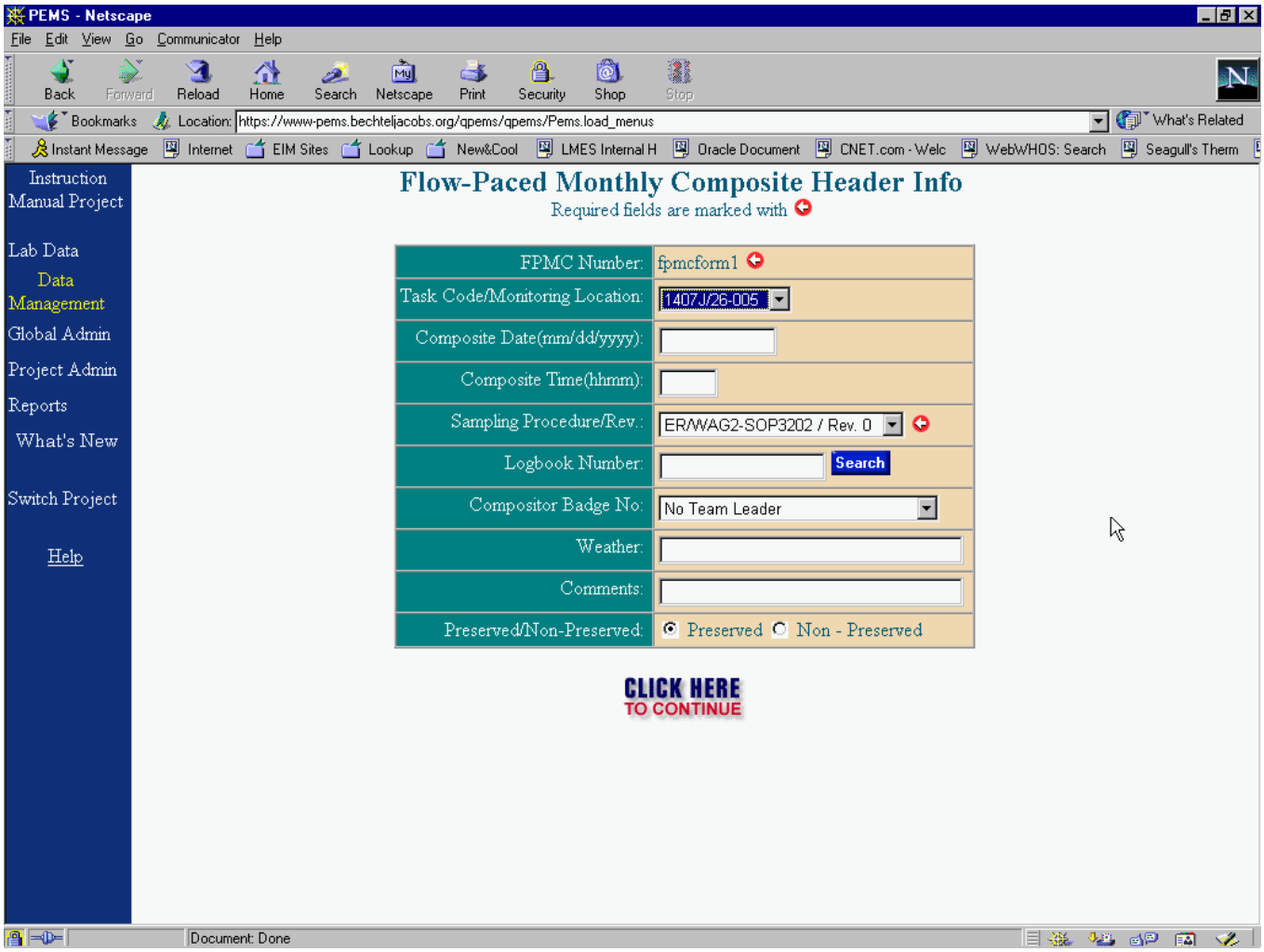


Figure 69

The two radio buttons in Figure 68 note 'Preserved' and 'Non-preserved' samples. This information can be stored in PEMS by clicking on the appropriate choice for the composite sample. Additional samples may be entered or deleted using this function.

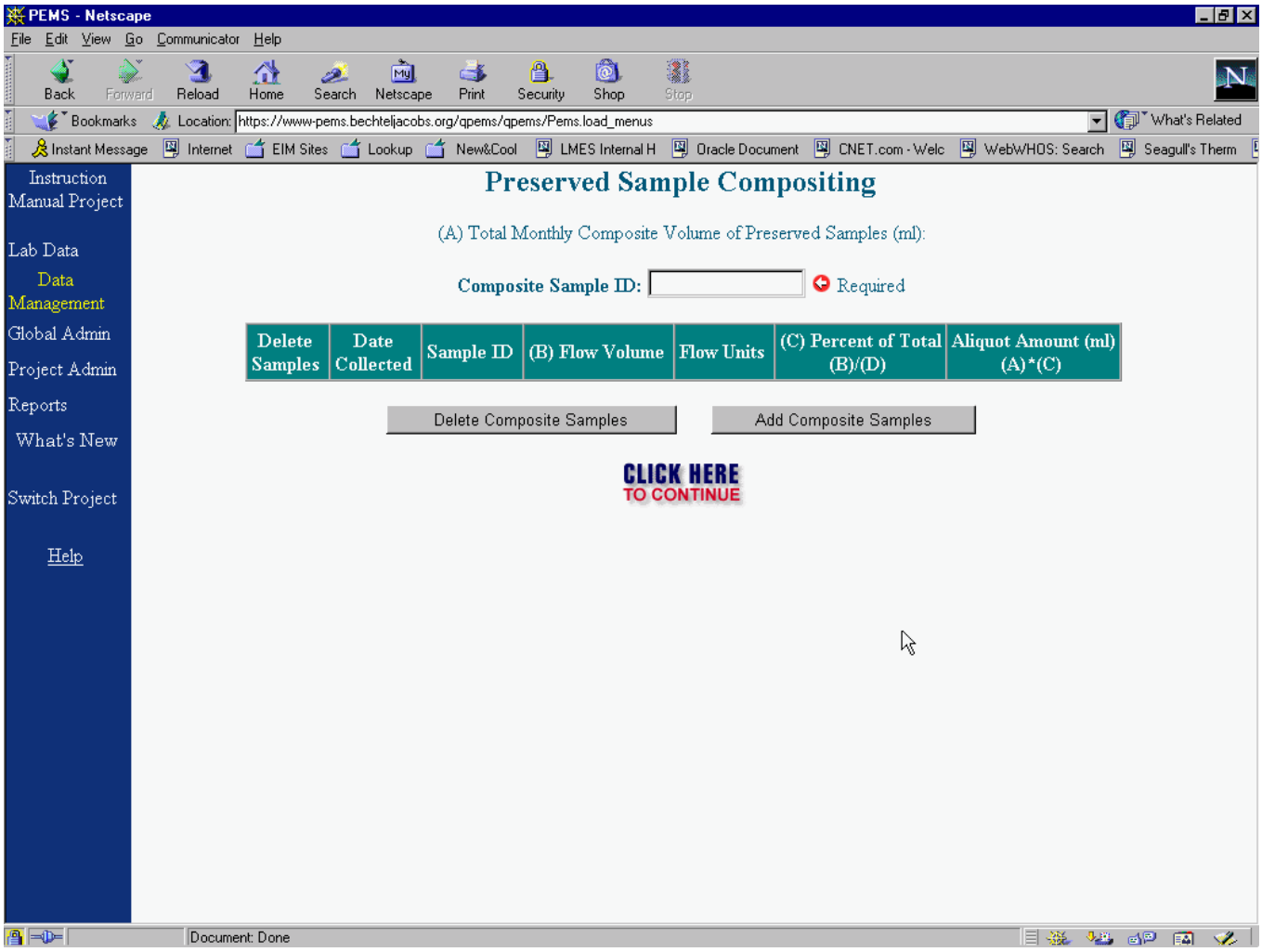


Figure 70

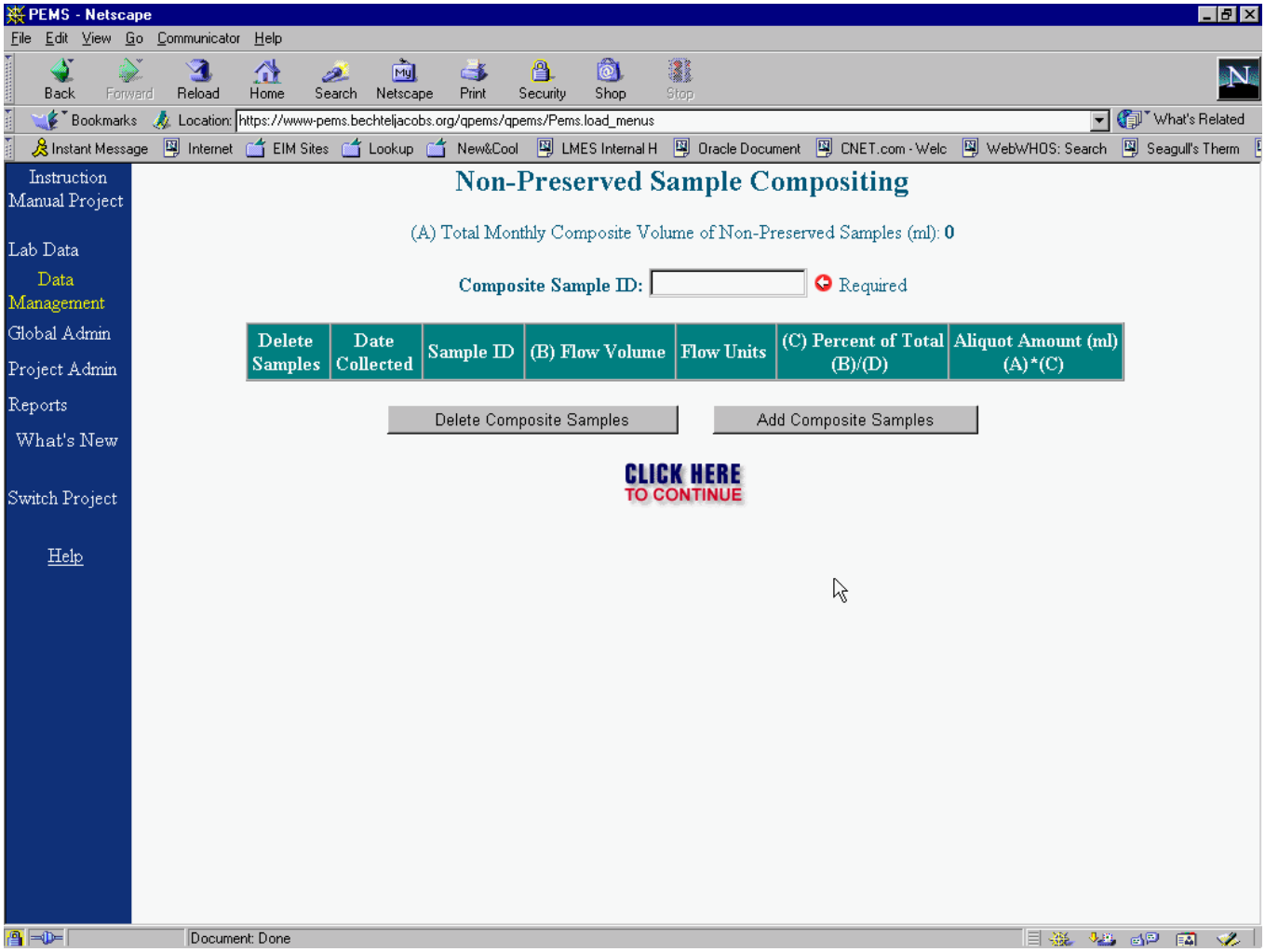

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Non-Preserved Sample Compositing
(A) Total Monthly Composite Volume of Non-Preserved Samples (ml): 0
Composite Sample ID:
Required
Delete Samples
Date Collected
Sample ID
(B) Flow Volume
Flow Units
(C) Percent of Total (B)/(D)
Aliquot Amount (ml) (A)*(C)
Delete Composite Samples
Add Composite Samples
CLICK HERE TO CONTINUE
Document: Done

Figure 71

If composite samples will be split to go to different laboratories, that information may be entered using the “Adding Preserved Split Samples’ function as shown in Figures 72 and 73.

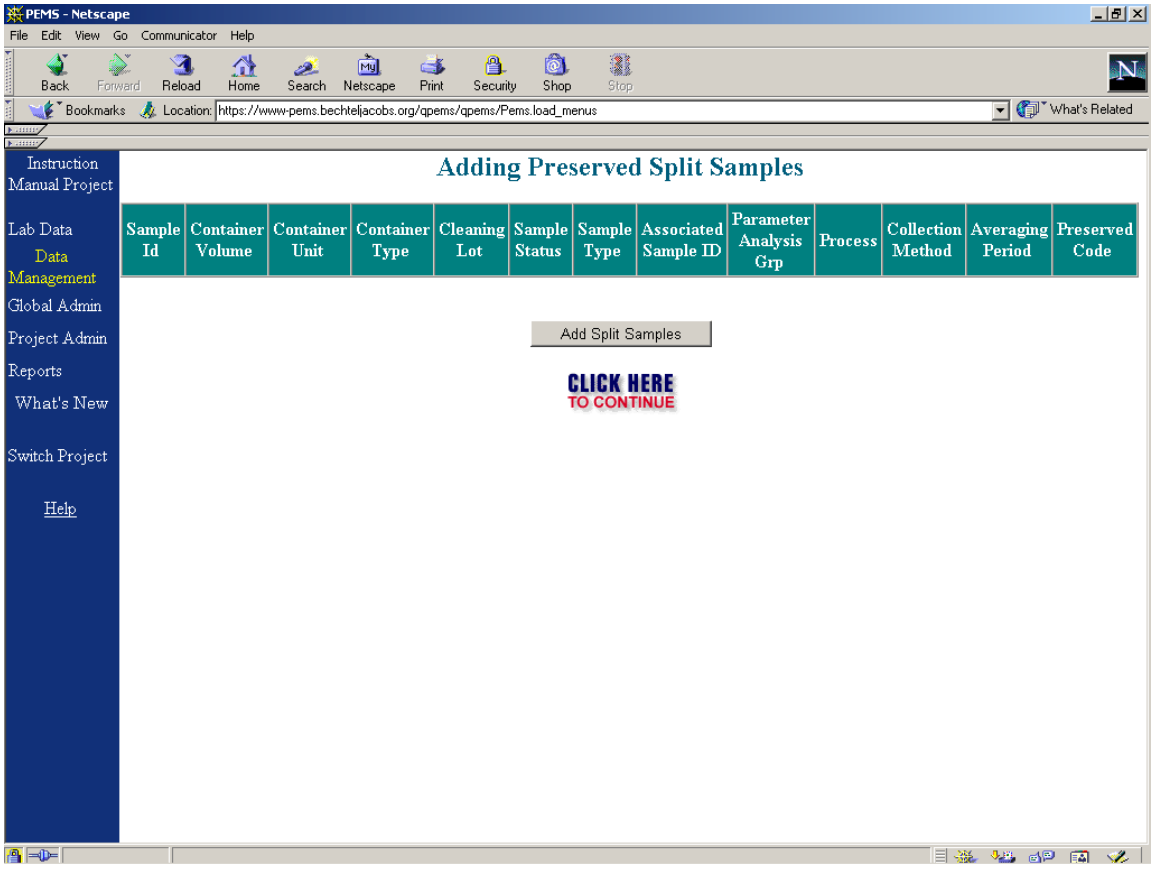


Figure 72

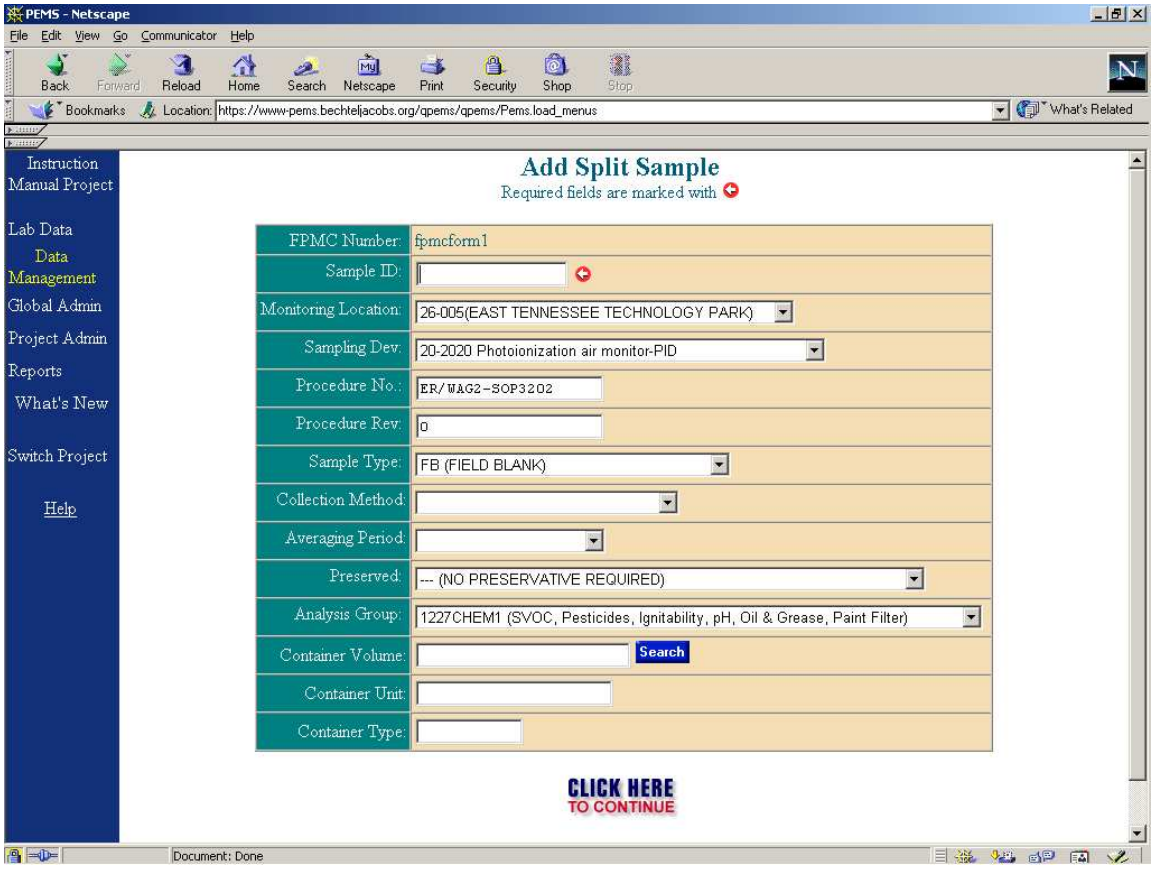


Figure 73

After the information has been entered, use the ‘Click Here to Continue’ button to save the information. The screen depicted in Figure 74 will confirm that the composite information has been successfully saved to the database.

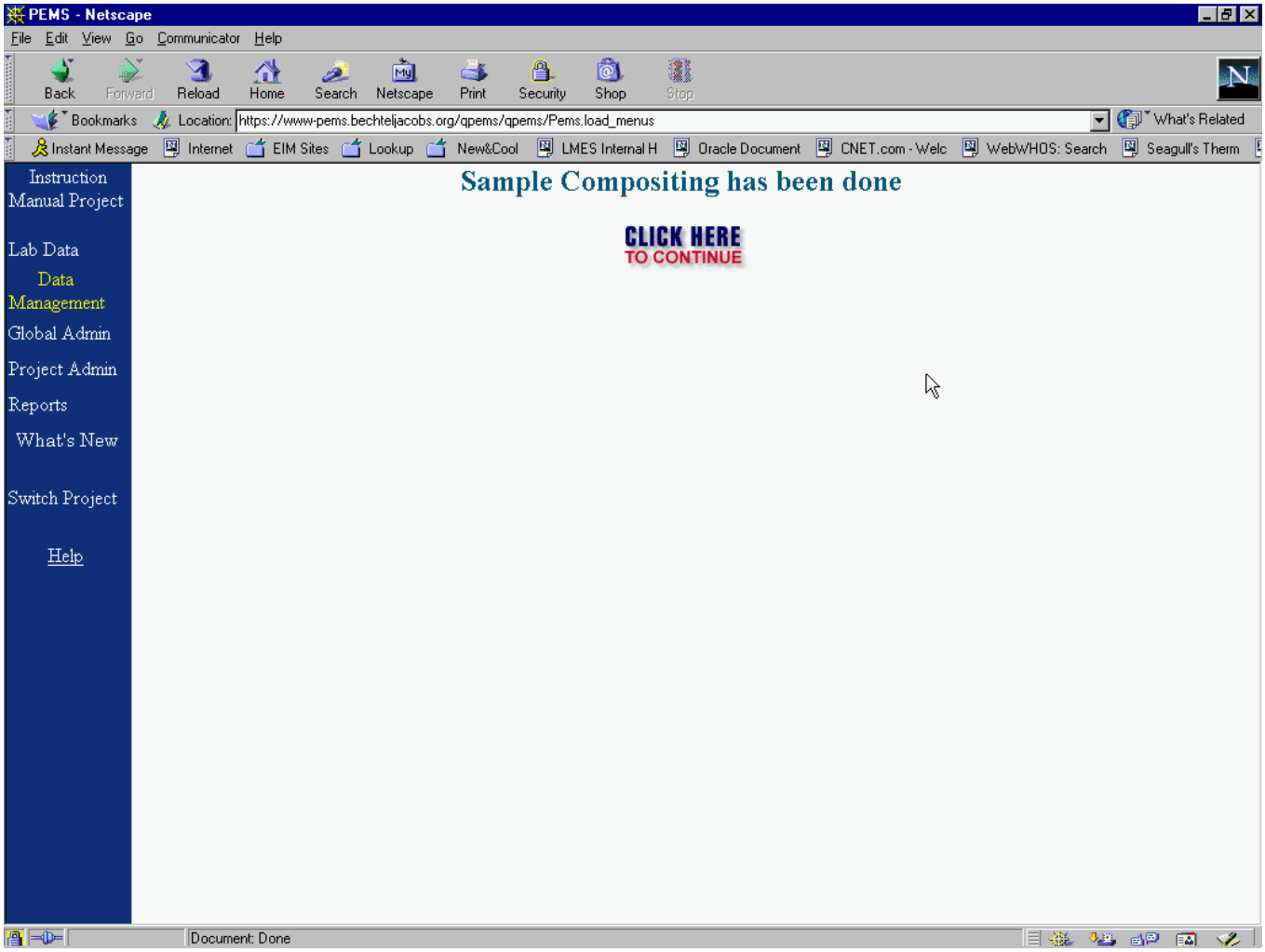


Figure 74

Figure 75 displays the Preserved BLANK FPMC Report sample query screen. By clicking on the 'Pick Samples' box, samples may be added to a FCOC.

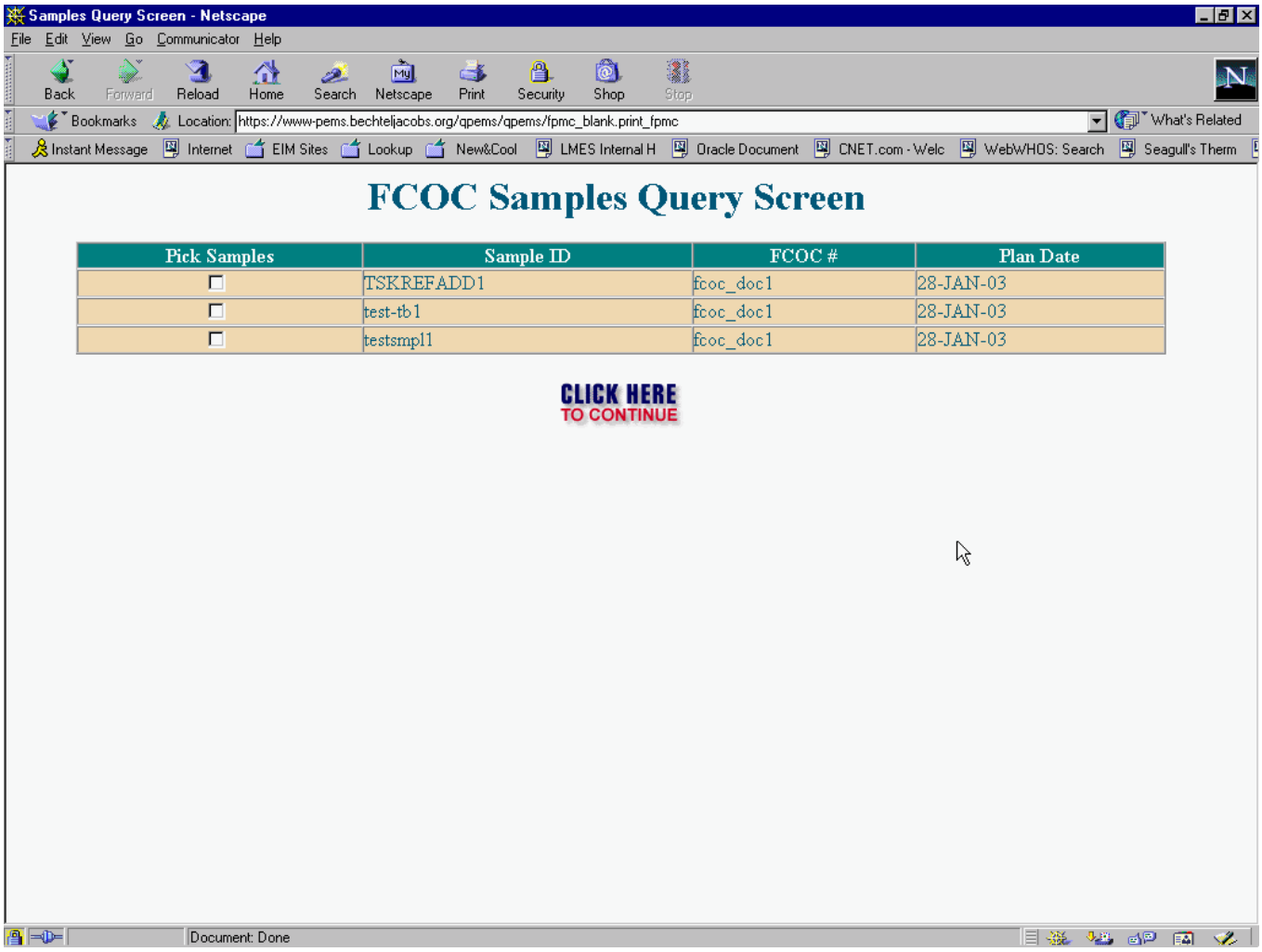


Figure 75

Figure 76 shows FPMC BLANK Report output that may be printed for the samplers to use in the field.

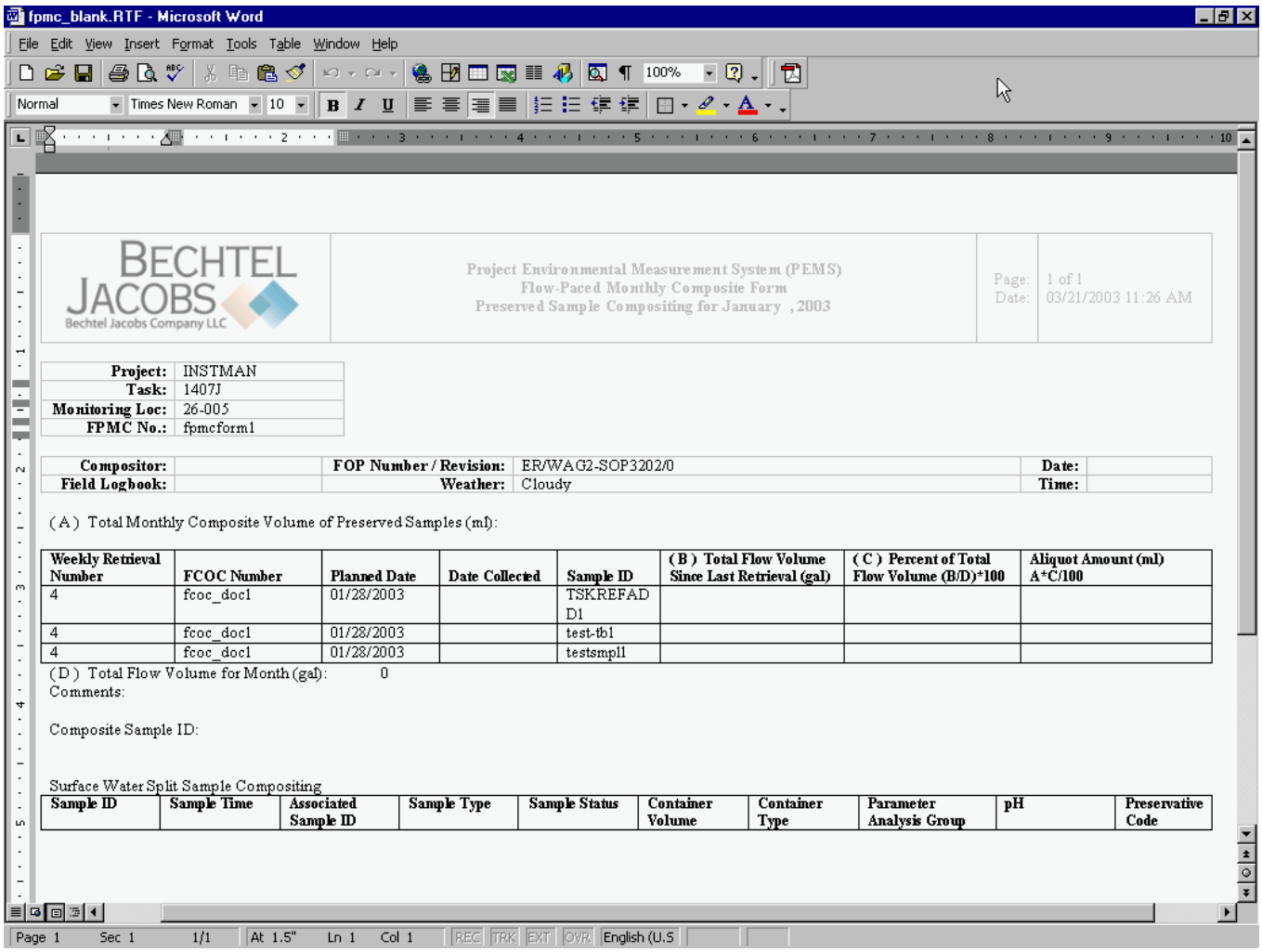

fpmc_blank.RTF - Microsoft Word
File Edit View Insert Format Tools Table Window Help
Normal Times New Roman 10
BECHTEL JACOBS
Bechtel Jacobs Company LLC
Project Environmental Measurement System (PEMS)
Flow-Paced Monthly Composite Form
Preserved Sample Compositing for January ,2003
Page: 1 of 1
Date: 03/21/2003 11:26 AM
Project: INSTMAN
Task: 1407J
Monitoring Loc: 26-005
FPMC No.: fpmcform1
Compositor:
Field Logbook:
FOP Number / Revision: ER/WAG2-SOP3202/0
Weather: Cloudy
Date:
Time:
(A) Total Monthly Composite Volume of Preserved Samples (ml):
Weekly Retrieval Number
FCOC Number
Planned Date
Date Collected
Sample ID
(B) Total Flow Volume Since Last Retrieval (gal)
(C) Percent of Total Flow Volume (B/D)*100
Aliquot Amount (ml) A*C/100
4 fcoc_doc1 01/28/2003 TSKREFADD1
4 fcoc_doc1 01/28/2003 test-tb1
4 fcoc_doc1 01/28/2003 testsmpl1
(D) Total Flow Volume for Month (gal): 0
Comments:
Composite Sample ID:
Surface Water Split Sample Compositing
Sample ID
Sample Time
Associated Sample ID
Sample Type
Sample Status
Container Volume
Container Type
Parameter Analysis Group
pH
Preservative Code
Page 1 Sec 1 1/1 At 1.5" Ln 1 Col 1 REC TRK EXT OVR English (U.S

Figure 76

5.0 Field Data

5.1 Enter Collection Date and Time

Depending on the operations of the project, samples may be planned days, weeks or even months in advance of the actual sample collection operations. When the samples are finally collected, the collection date and time must be recorded in PEMS. This is accomplished by using the 'Enter Collection Date And Time' application from the Data Management menu. The main screen of this application is show below, as Figure 78.

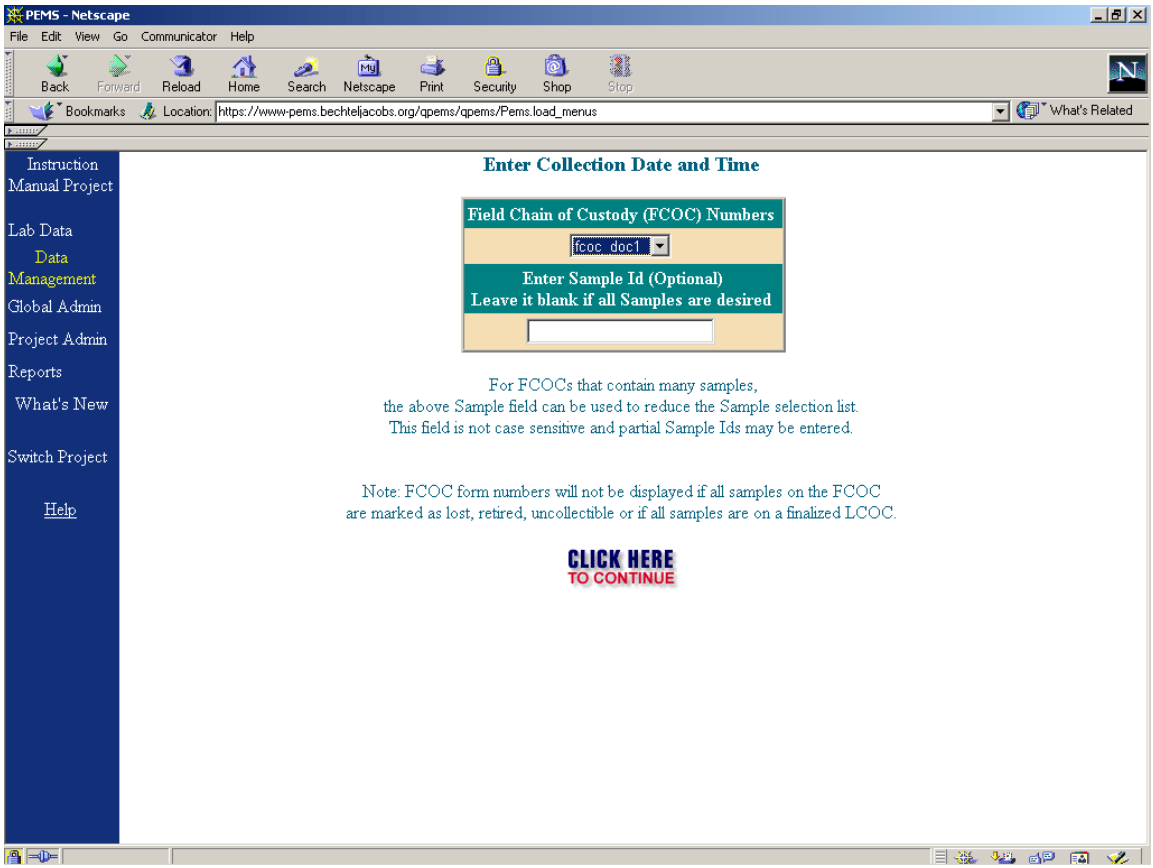


Figure 78

Users are able to enter date/time collected for one (by entering the sample id - see Figure 79) or multiple samples (by leaving the sample id field blank - see Figure 80). After entering the date and time and selecting the sample, clicking on the 'continue' icon, will save the information for the sample.

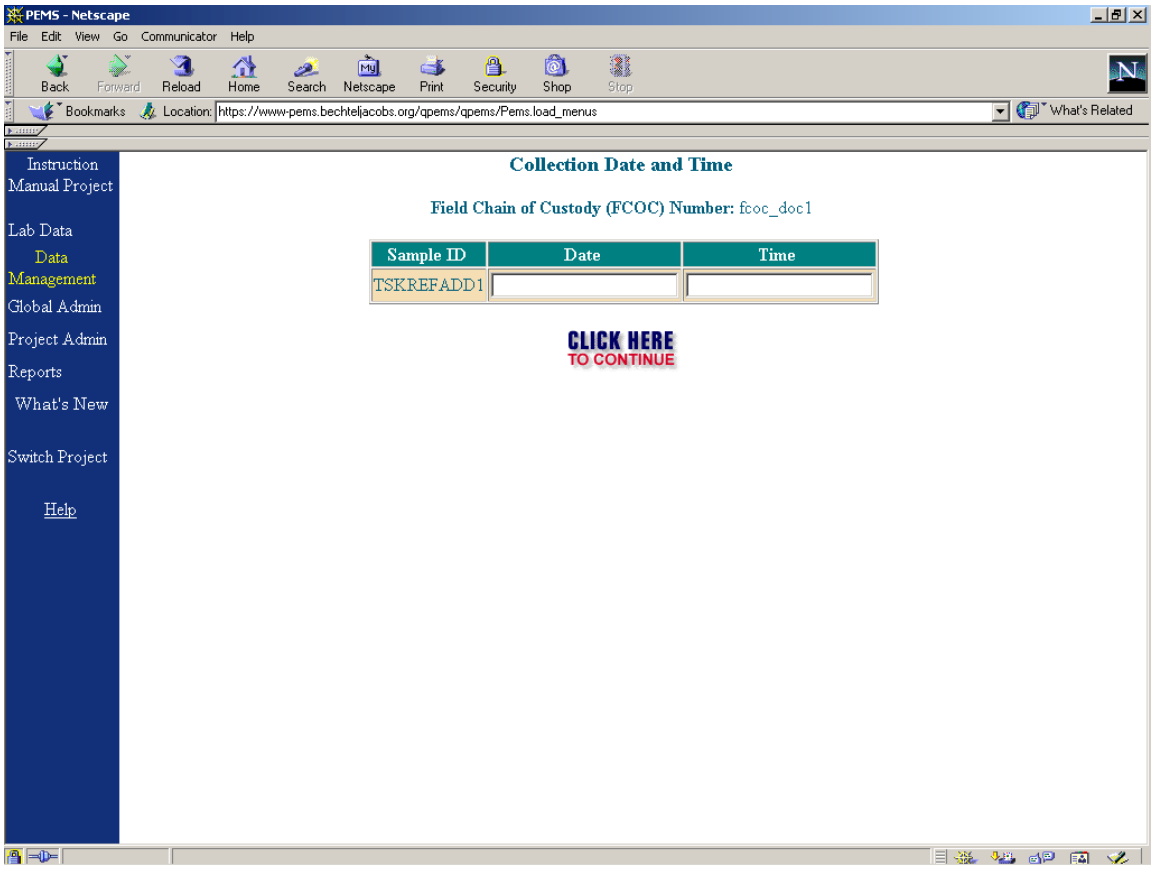


Figure 79

To enter the data/time for multiple samples associated with a FCOC, select the samples to edit (see Figure 80). This screen lists all of the samples for the selected FCOC with checkboxes to include samples in the collection update. After the samples have been specified and the collection data entered, clicking on the 'continue' icon will save the information for the sample.

Using the Collection Date And Time application will also change the status of the sample. When the collection information is saved, the sample status is changed 'C'

(Collected). The result of changing the sample status is that that sample may now be placed on a Laboratory Chain of Custody (LCOC).

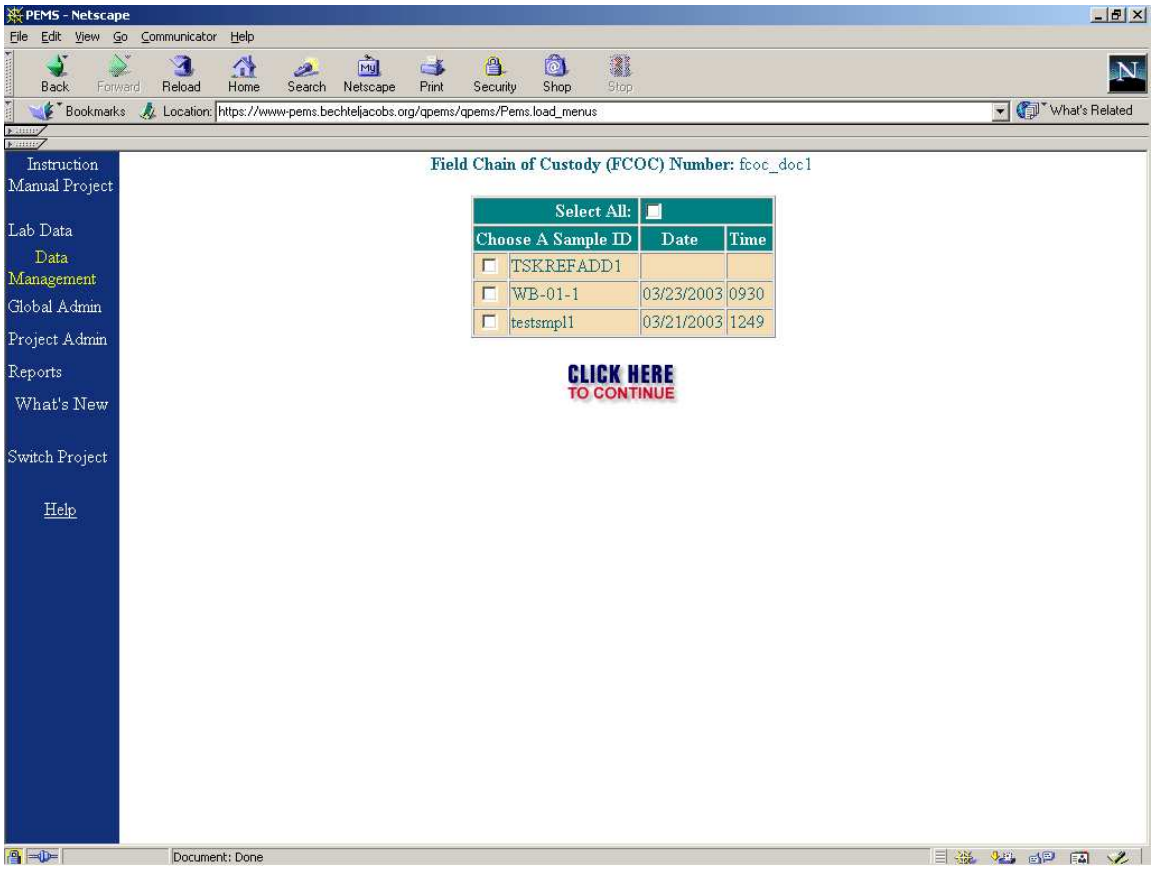


Figure 80

5.2 Laboratory Chain of Custody (LCOC)

LCOCs are used to document the transfer of collected samples to the laboratory for analysis. To execute this application, click on the Laboratory Chain of Custody link on the Data Management menu. The main screen of the LCOC application is displayed in Figure 81. This screen contains a drop-down list that defaults to the 'Create A New Lab Chain of Custody (LCOC)'. This drop-down list also shows all of the LCOCs by form number for the current project, the SOW that is assigned to the LCOC and the finalized status of the LCOC. The finalized status is either 'Finalized' or null (indicating that the LCOC is not finalized).

Some projects prepare their LCOC documents in advance of the actual collection of samples to more rapidly facilitate shipping. In order to do this, PEMS must store the LCOC and allow editing of the information to reflect actual operations. Finalizing an LCOC locks the document to prevent editing and indicates to the system that the samples have been shipped for analysis. Analytical results may only be loaded for samples that are on finalized LCOCs.

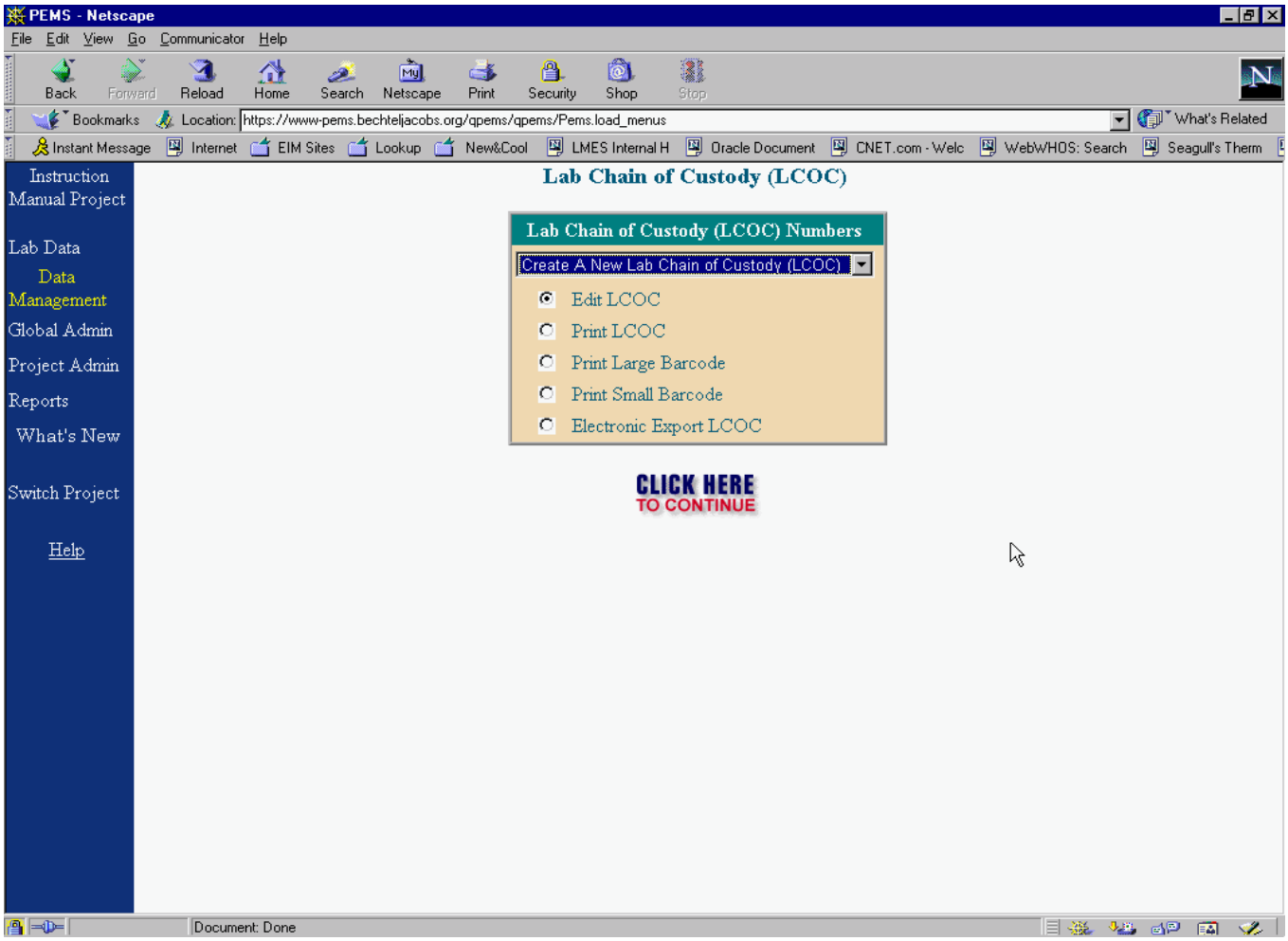


Figure 81

To create/edit an LCOC, ensure that the Edit LCOC radio button is selected and click on the 'Click Here to Continue' icon. If the LCOC is being created, the LCOC form screen will be displayed as shown in Figure 82. If the LCOC is being edited, a link will appear next to the Form Number field. This link, labeled 'Rename this LCOC', will display a prompt asking the user for the new form number. Entering the new form number and clicking on the 'OK' button will rename the LCOC to the new form number.

Another difference in the edit screen from the create screen is the addition of the 'Delete LCOC' button at the bottom of the screen. Clicking on that button will delete the LCOC and mark the samples currently on that LCOC as available for placement on a new LCOC.

The user should enter the LCOC information into the fields present. Note that the finalization check box beneath the form number field. By clicking on this check box, the LCOC will be finalized when the application is completed.

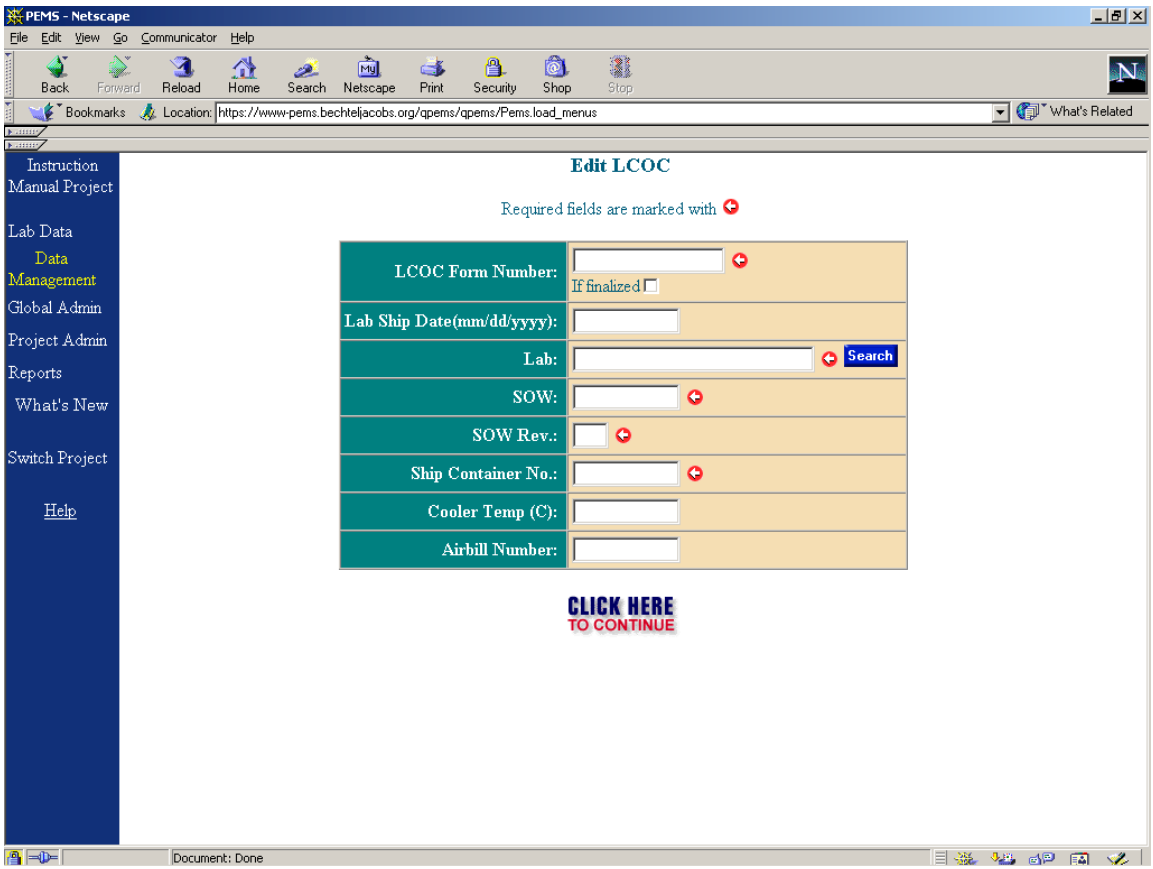


Figure 82

The Shipment Group identifier defaults to the form number and is displayed on the printed LCOC. The Search button displayed next to the Lab field will access all of the SOWs defined for the current project and display them in a pop-up window, as shown in Figure 83. It is through this window that the samples are assigned to the laboratories that will perform the analysis.

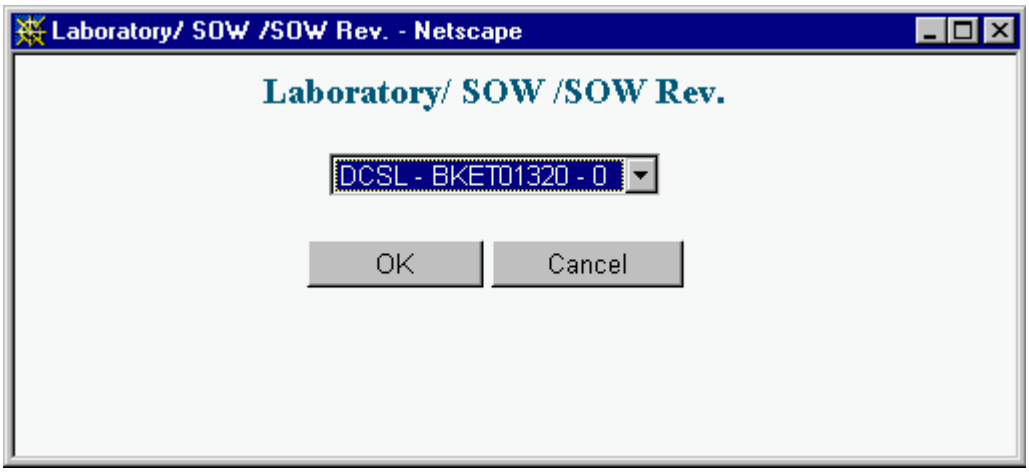


Figure 83

After entering all of the form information and clicking on the continue icon, the LCOC Choose Samples screen is displayed as shown in Figure 84.

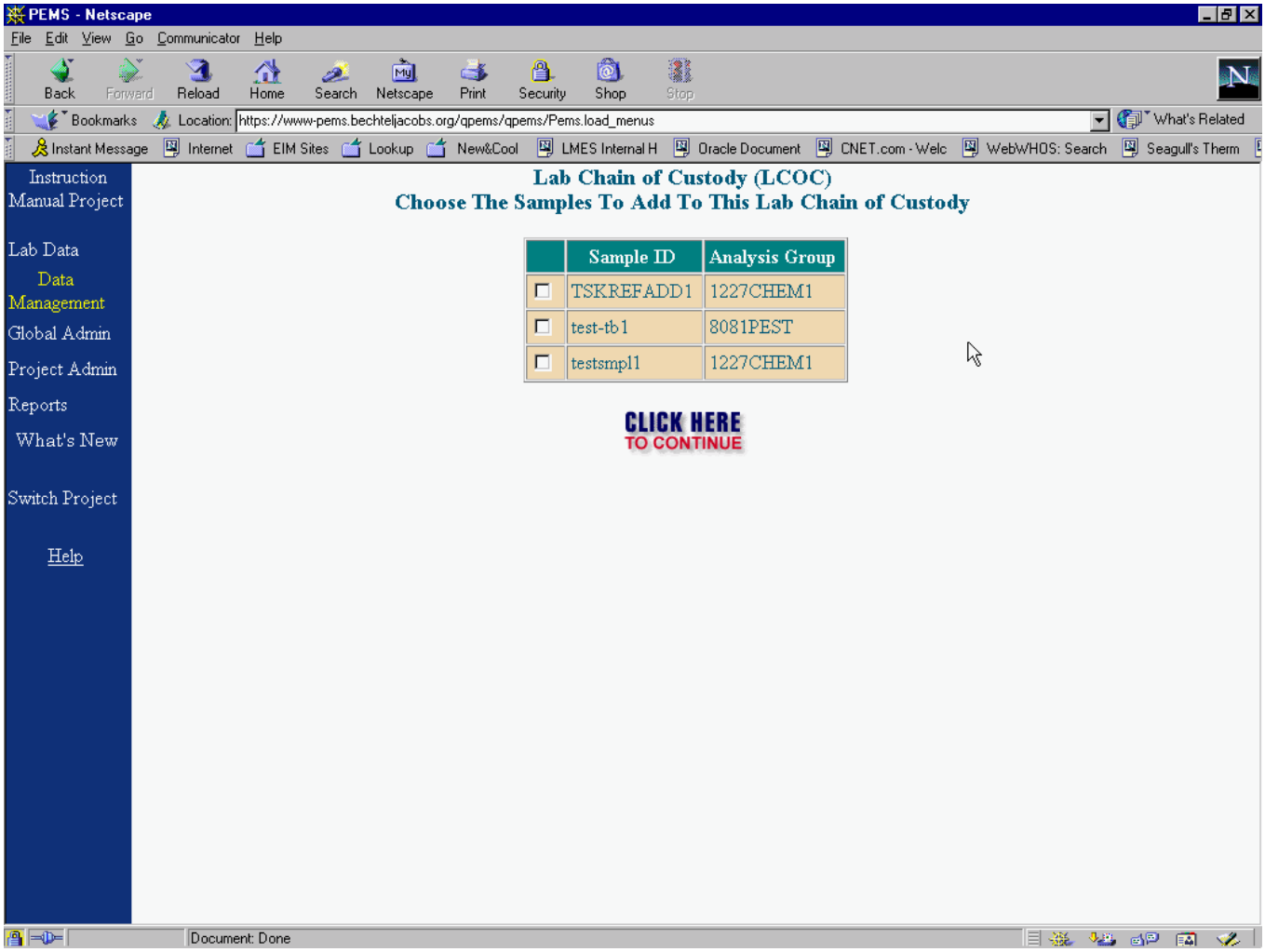
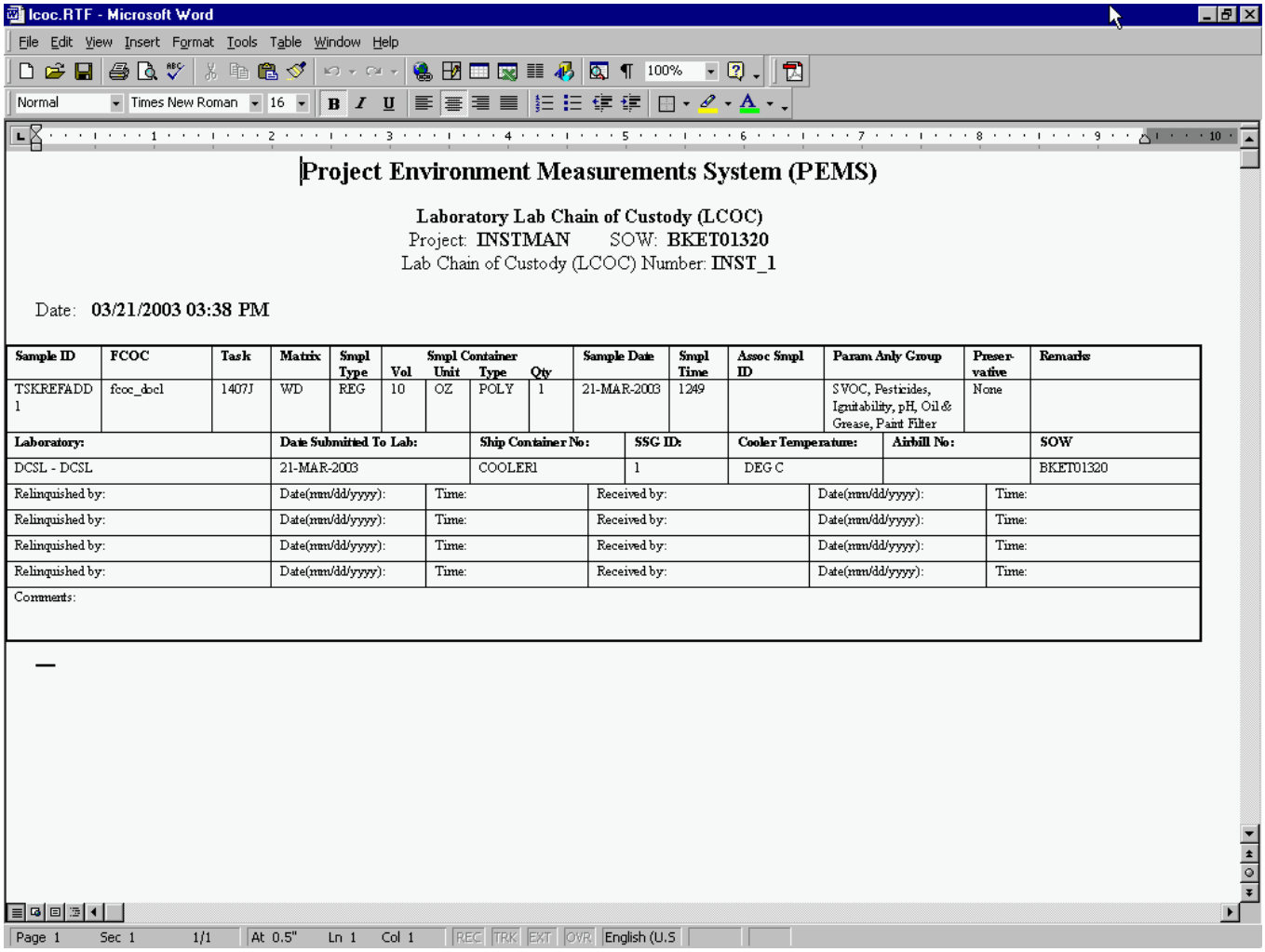


Figure 84

After selecting the samples to be placed on the LCOC by clicking on the checkboxes next to the sample id, clicking on the continue icon will add the samples to the LCOC and return the user to the main screen of the application.

5.2.1 Printing LCOCs

Using the 'Print LCOC' function, the LCOC will be in a printable Word format as shown in Figure 85. LCOCs must be printed one at a time.



Sample ID	FCOC	Task	Matrix	Smpl Type	Smpl Container Vol	Unit	Type	Qty	Sample Date	Smpl Time	Assoc Smpl ID	Param Anly Group	Preser-vative	Remarks
TSKREFADD 1	fcoc_docl	1407J	WD	REG	10	OZ	POLY	1	21-MAR-2003	1249		SVOC, Pesticides, Ignitability, pH, Oil & Grease, Paint Filter	None	

Laboratory:	Date Submitted To Lab:	Ship Container No:	SSG ID:	Cooler Temperature:	Airbill No:	SOW
DCSL - DCSL	21-MAR-2003	COOLER1	1	DEG C		BKET01320

Relinquished by:	Date(mm/dd/yyyy):	Time:	Received by:	Date(mm/dd/yyyy):	Time:
Relinquished by:	Date(mm/dd/yyyy):	Time:	Received by:	Date(mm/dd/yyyy):	Time:
Relinquished by:	Date(mm/dd/yyyy):	Time:	Received by:	Date(mm/dd/yyyy):	Time:
Relinquished by:	Date(mm/dd/yyyy):	Time:	Received by:	Date(mm/dd/yyyy):	Time:

Comments:

Figure 85

Barcode sample bottle labels can also be printed from the LCOC menu.

5.2.2 Electronic Export LCOC

From the Laboratory Chain of Custody main screen, the ‘Electronic Export LCOC’ button will download a .csv file to the user’s PC as shown in Figure 86.

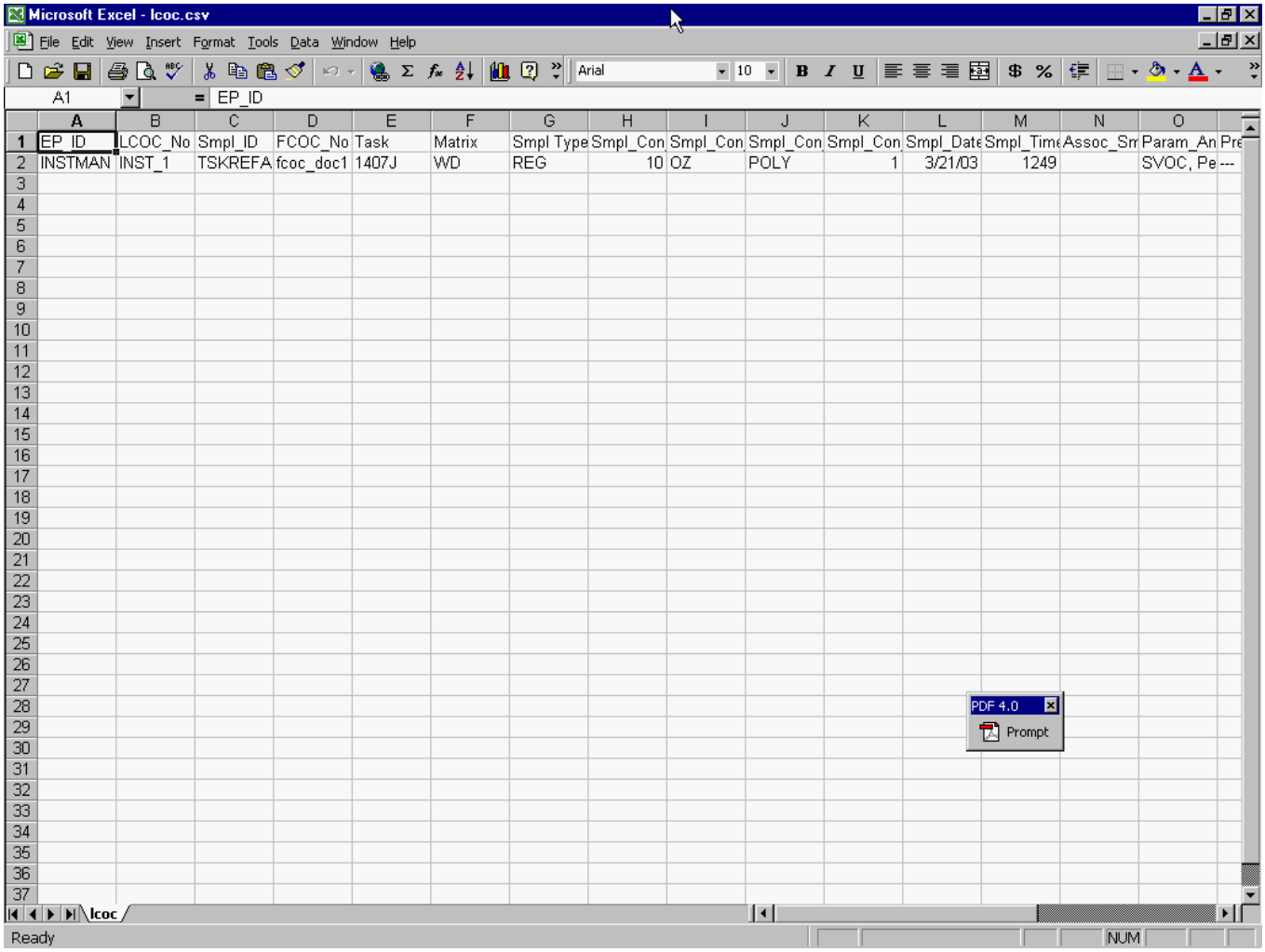

Microsoft Excel - lcoc.csv
File Edit View Insert Format Tools Data Window Help
Arial
10
A1
= EP_ID
EP_ID LCOC_No Smpl_ID FCOC_No Task Matrix Smpl Type Smpl_Con Smpl_Con Smpl_Con Smpl_Con Smpl_Date Smpl_Time Assoc_Sm Param_An Pre
INSTMAN INST_1 TSKREFA fcoc_doc1 1407J WD REG 10 OZ POLY 1 3/21/03 1249 SVOC, Pe ---
PDF 4.0
Prompt
lcoc
Ready
NUM

Figure 86

5.3 Bar Code Operations

Note: Please contact PEMS support for help with barcode readers, programs, etc. The PEMS Bar Code User is posted on the PEMS website at the following location: https://www-pems.ettp.energy.gov/pems/home/PEMS_Bar_Code_Users_Guide.pdf

PEMS Support Email: pems@ettp.doe.gov

Download PEMS.HEX from the PEMS home page.
https://www-pems.ettp.energy.gov/pems/home/home.html

Users need an Internet-ready PC with a 9-pin male COM1 port to load C Programs into the bar code readers. The user will need to download the COMMUNICATIONS.EXE file from the PEMS homepage, then unzip the file and follow the readme.txt instructions.

The project may use barcode readers for collection of field data and sample data. During the course of the operation the Bar Code reader, two files will be generated:

FIELD.DAT, A file containing field measurement transactions.
SAMPLE.DAT, A file containing sample collection transactions.

Each transaction appends a row to one of the files, depending on the type of transaction. The files are in a column-oriented format (fixed position). This file is uploaded to your PC and then uploaded in the PEMS database. The fiel may be modifed while it is on the user's PC before uploading it to the PEMS database. The file formats are described below.

FIELD.DAT

Beginning Column Position	Length	Field Name	Description
1	7	*Reader No	The Bar Code Reader No (i.e. PDT0100)
9	10	*Project ID	The Project ID
20	7	*Badge No	The Team Leader Badge No
28	15	*Logbook No	The Logbook No
44	2	*Matrix	The Matrix Type (see PEMS for valid values)
47	9	Equipment ID	The Equipment ID
57	15	*Monitoring Location	The Monitoring Location
73	15	*Form ID	The Field Form ID
89	5	*Task Code	The Task Code
95	10	*Planning Date	The Planning Date in (MM/DD/YYYY)
106	9	*Parameter	The Field Measurement Parameter Code (see PEMS for valid values)
116	16	*Field Units	The Field Measurement Unit
133	10	*Field Result	The Field Measurement Result in numeric decimal format
144	20	*Weather	The Weather
165	20	*Comments	The Comments
186	10	Field Date	The Field Measurement Collection Date in (MM/DD/YYYY)
197	4	*Field Time	The Field Measurement Collection Time in (HHMM)

* Required fields

SAMPLE.DAT

Beginning Column Position	Length	Field Name	Description
1	7	*Reader No	The Bar Code Reader No (i.e. PDT0100)
9	10	*Project ID	The Project ID
20	7	*Badge No	The Team Leader Badge No
28	15	*Logbook No	The Logbook No
44	2	*Matrix	The Matrix Type (see PEMS for valid values)
47	9	Equipment ID	The Equipment ID
57	15	*Monitoring Location	The Monitoring Location
73	15	*Sample ID	The Sample ID (for each container)
89	15	Lot No	The Certified Lot No
105	10	Top Depth	The Top Depth in numeric decimal format
116	10	Bottom Depth	The Bottom Depth in numeric decimal format
127	16	Depth Units	The Depth Units
144	10	*Sample Date	The Sample Date in (MM/DD/YYYY)
155	4	*Sample Time	The Sample Time in (HHMM)

* Required fields

5.3.1 Print Bar Code Menu Sheets

The data may be uploaded into the database from a personal computer. Barcodes for field measurements are displayed below.

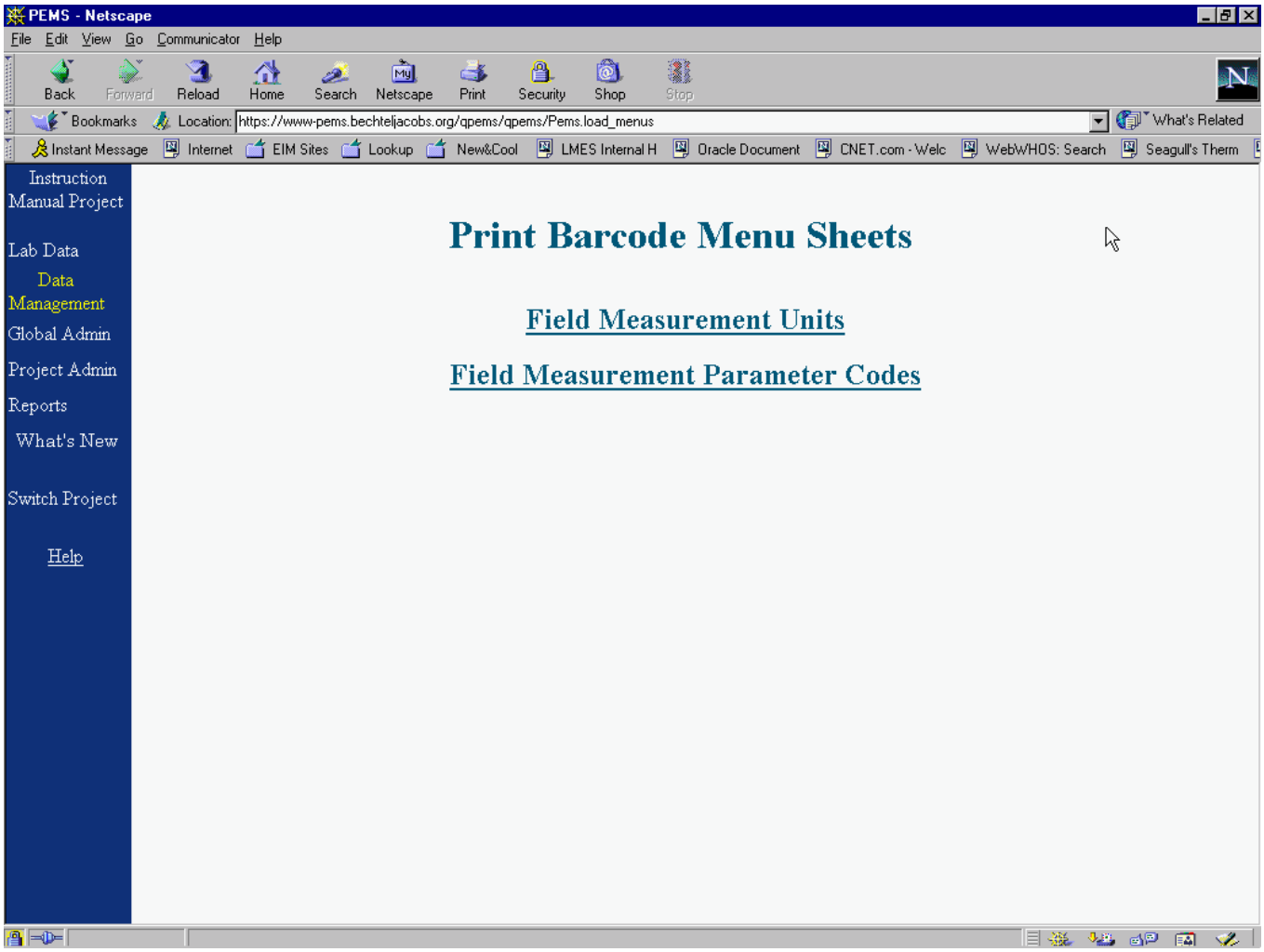


Figure 87

Figure 88 displays some of the barcodes available in the system for field measurements.

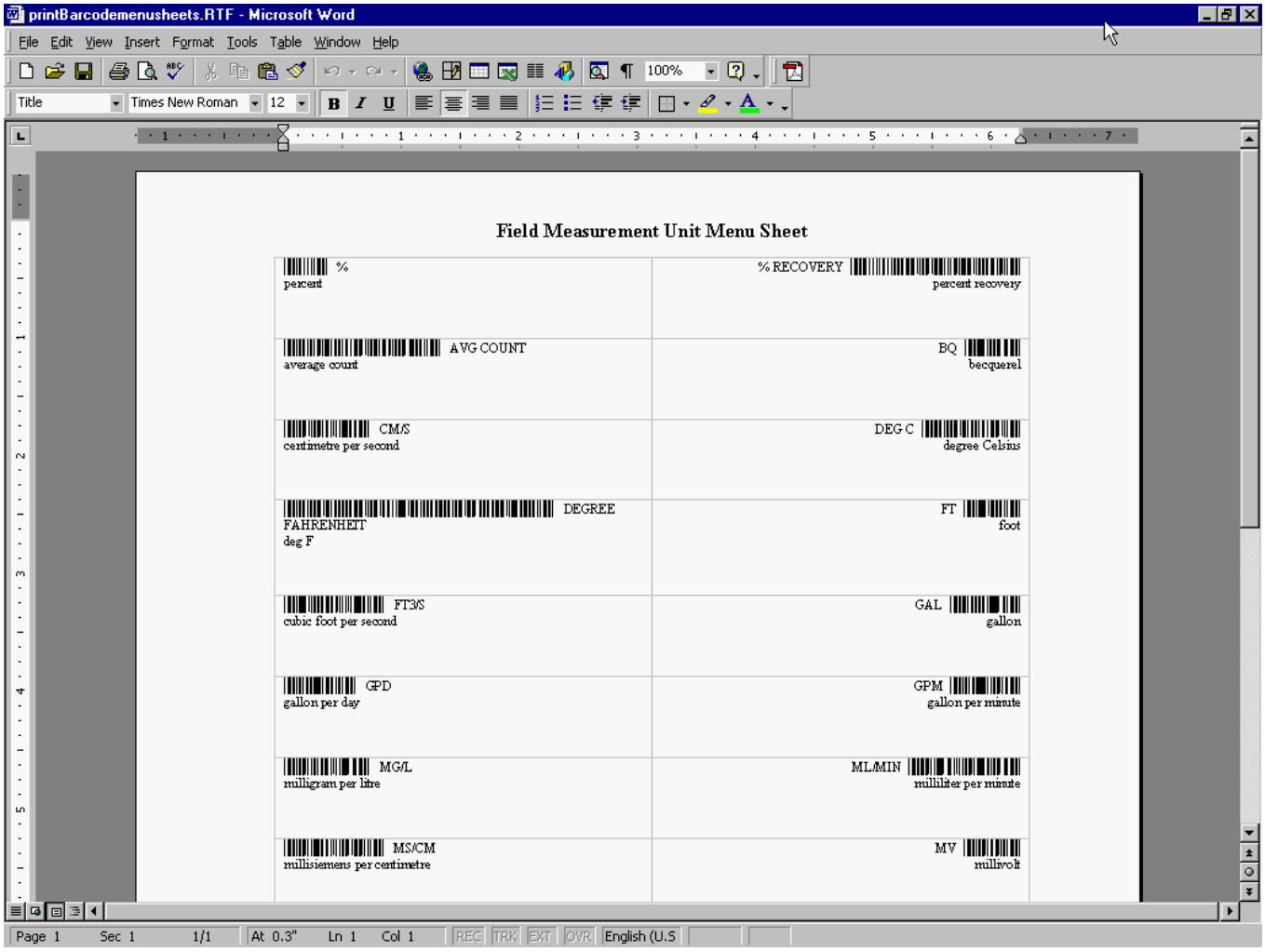


Figure 88

The user can print barcodes by parameter in the order desired. The user should enter the order in the fields as shown in Figure 89.

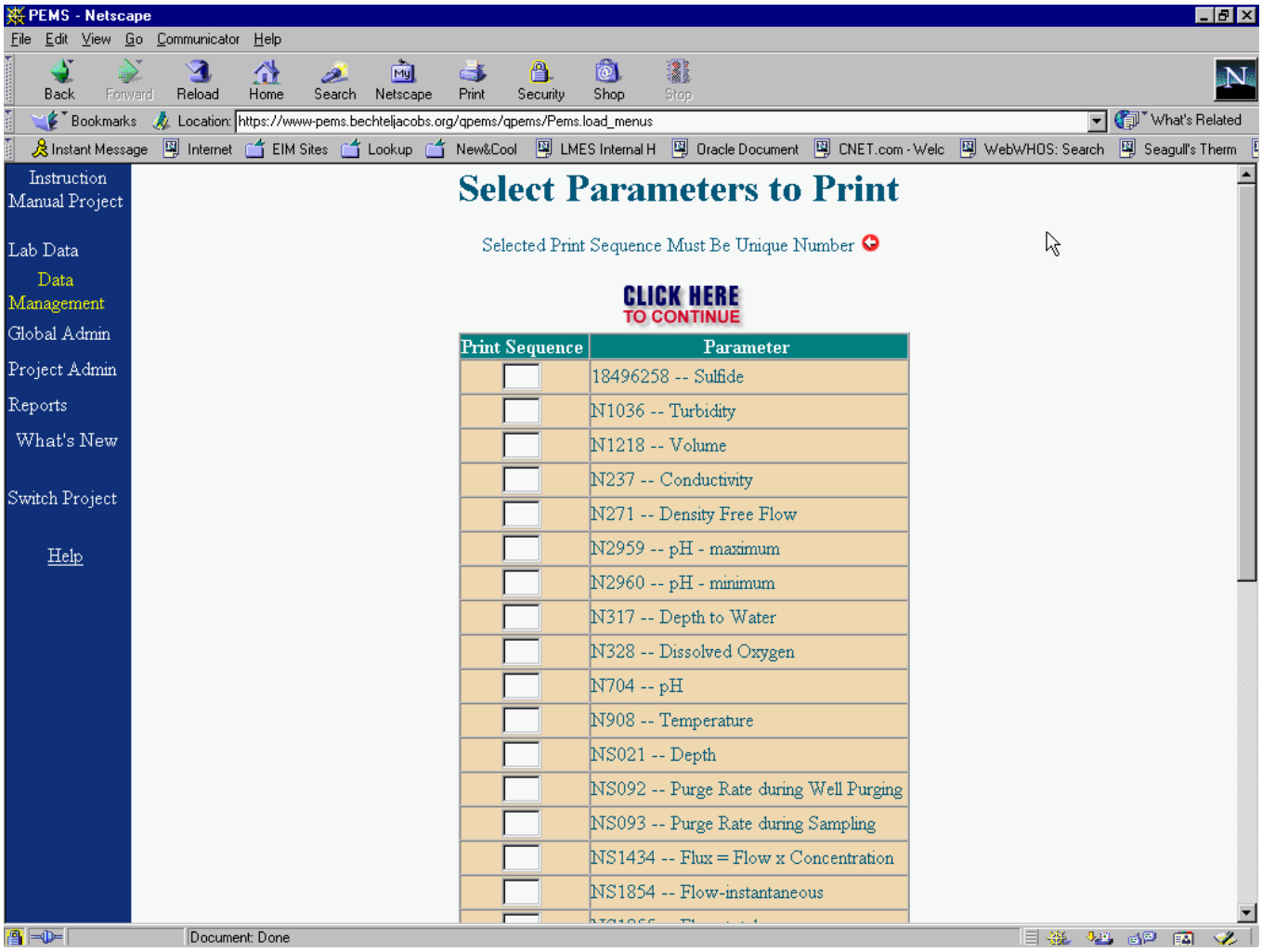


Figure 89

Barcodes may also be printed to enter field measurements into PEMS as shown in Figure 90.

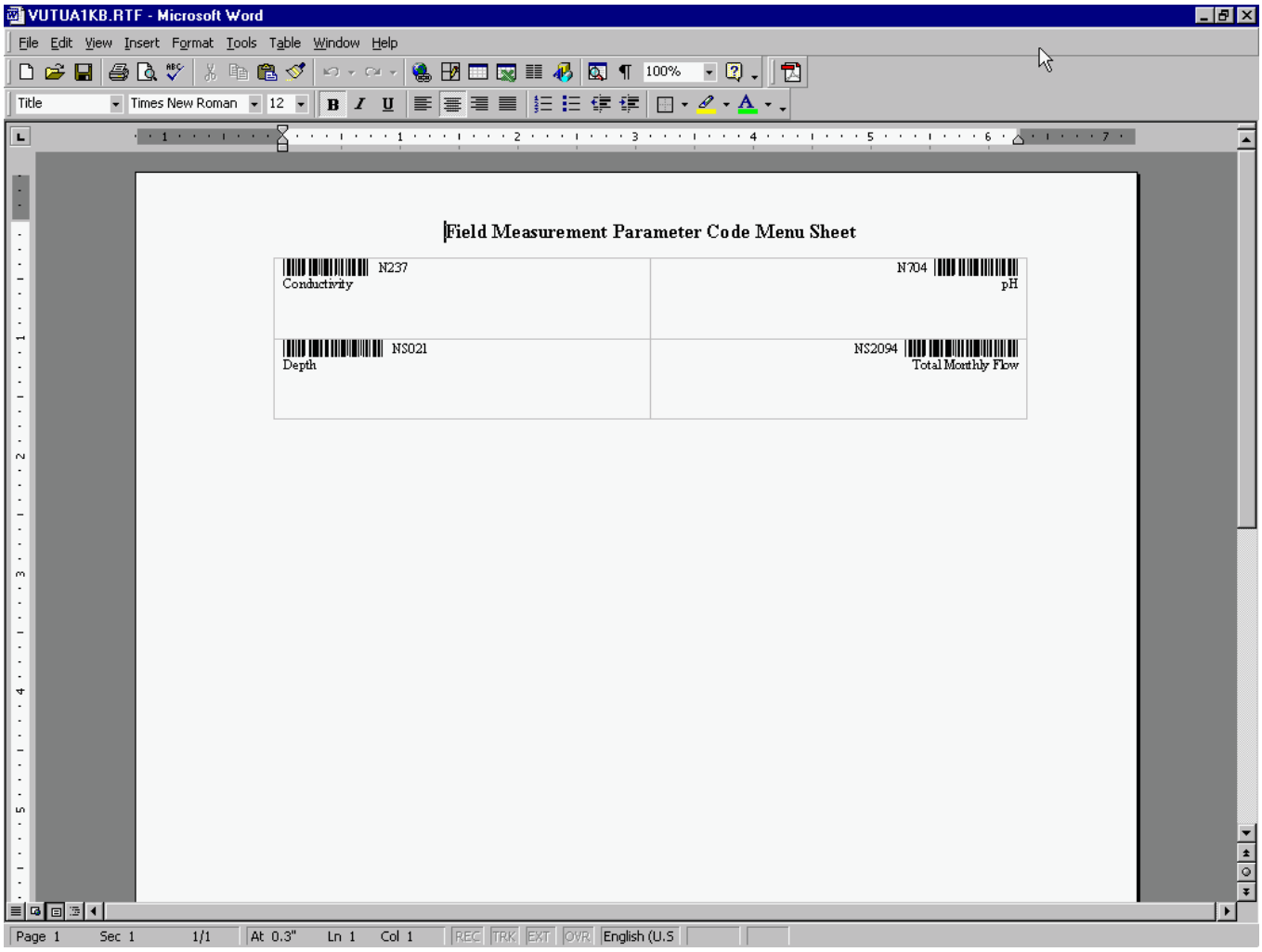


Figure 90

5.3.2 Transfer Barcode Reader Data

The data entered into the barcode reader is downloaded to a PC, then uploaded into PEMS. The file name may be entered into the field or the browser may be used to pick the file name. The file format must match the radio button selected (Figure 91).

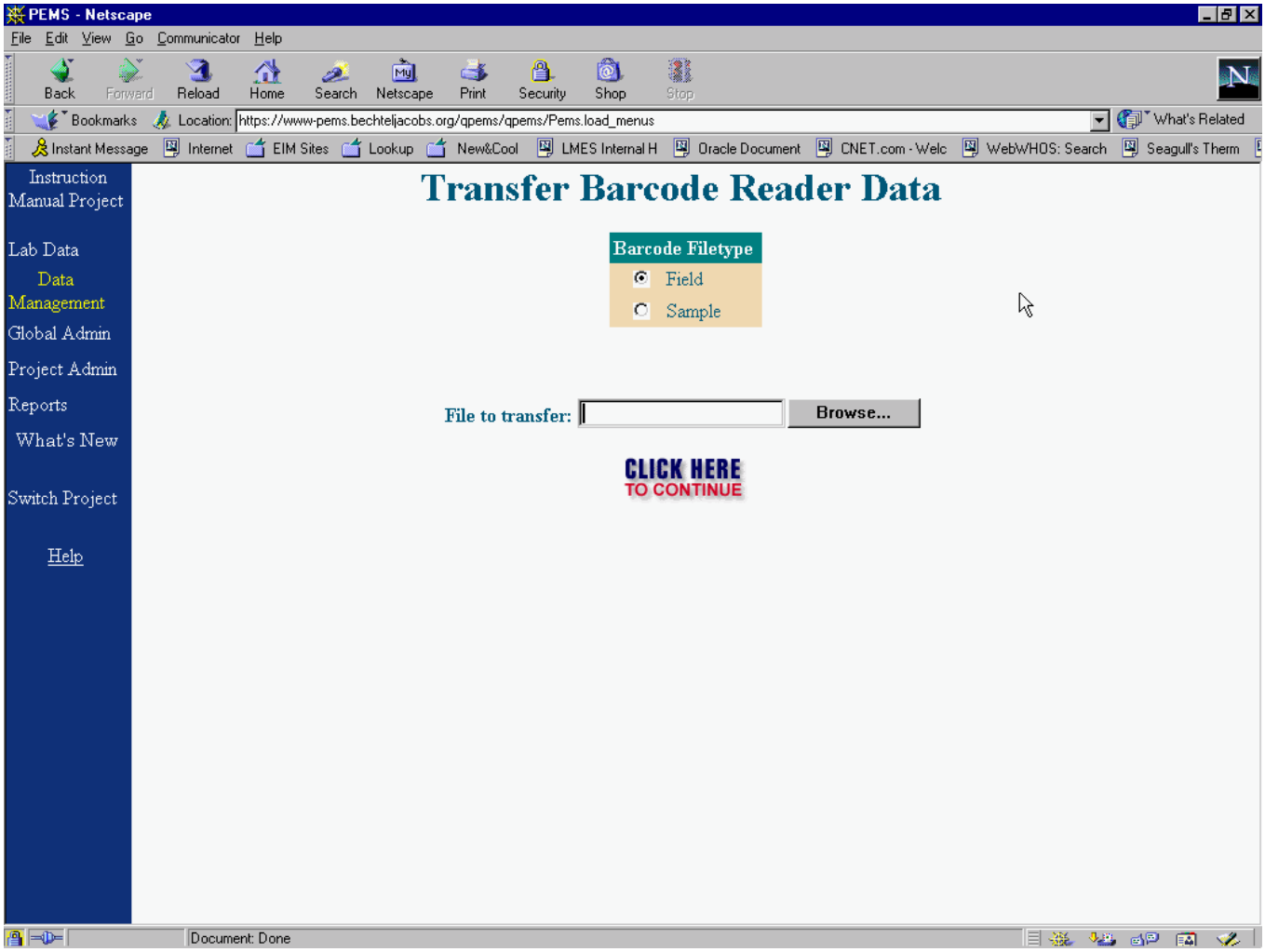


Figure 91

The system runs checks on the data so that the user can be notified immediately if there are errors in the data (Figure 92). The user must correct the file and re-transfer it to PEMS.

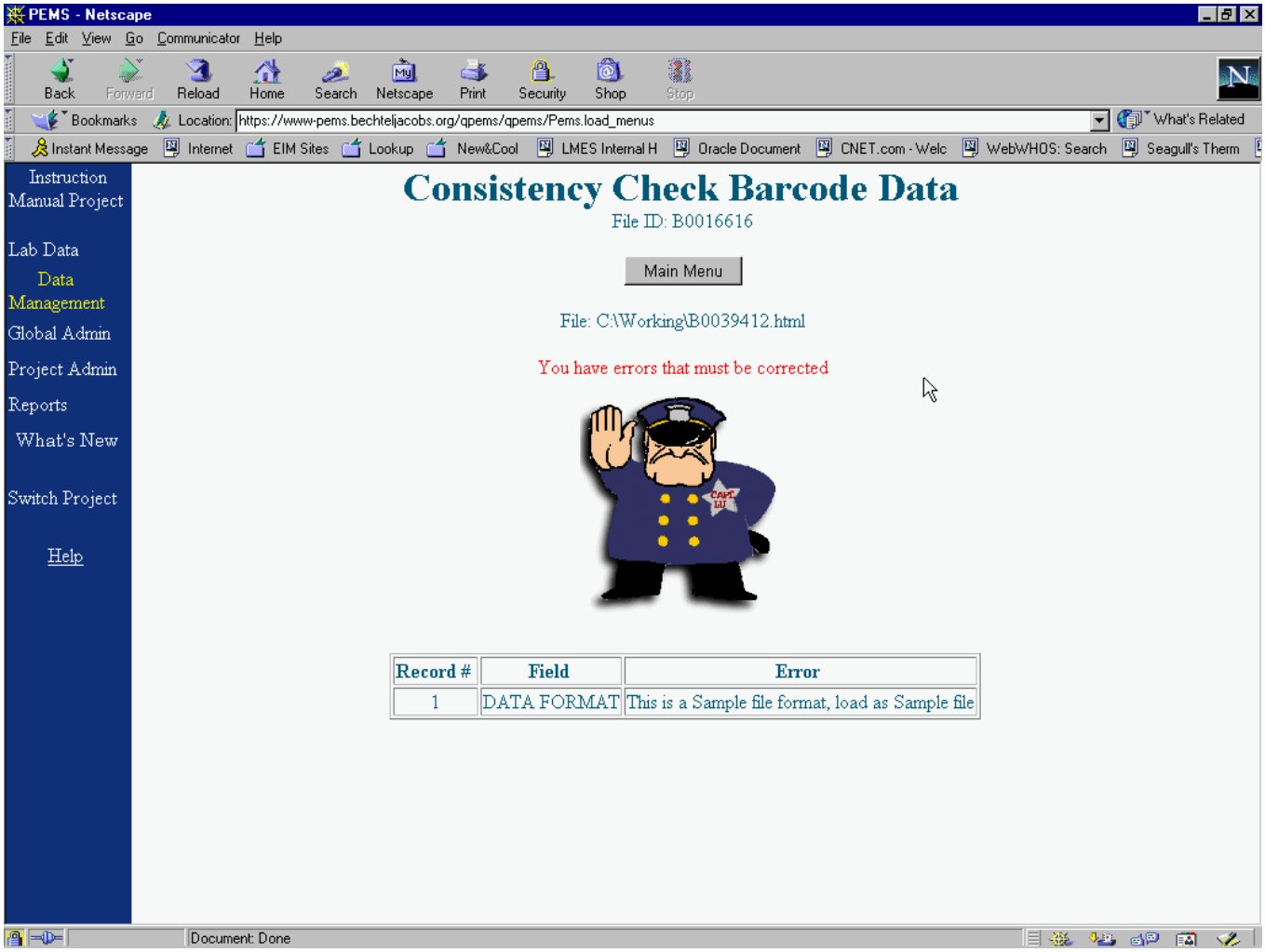
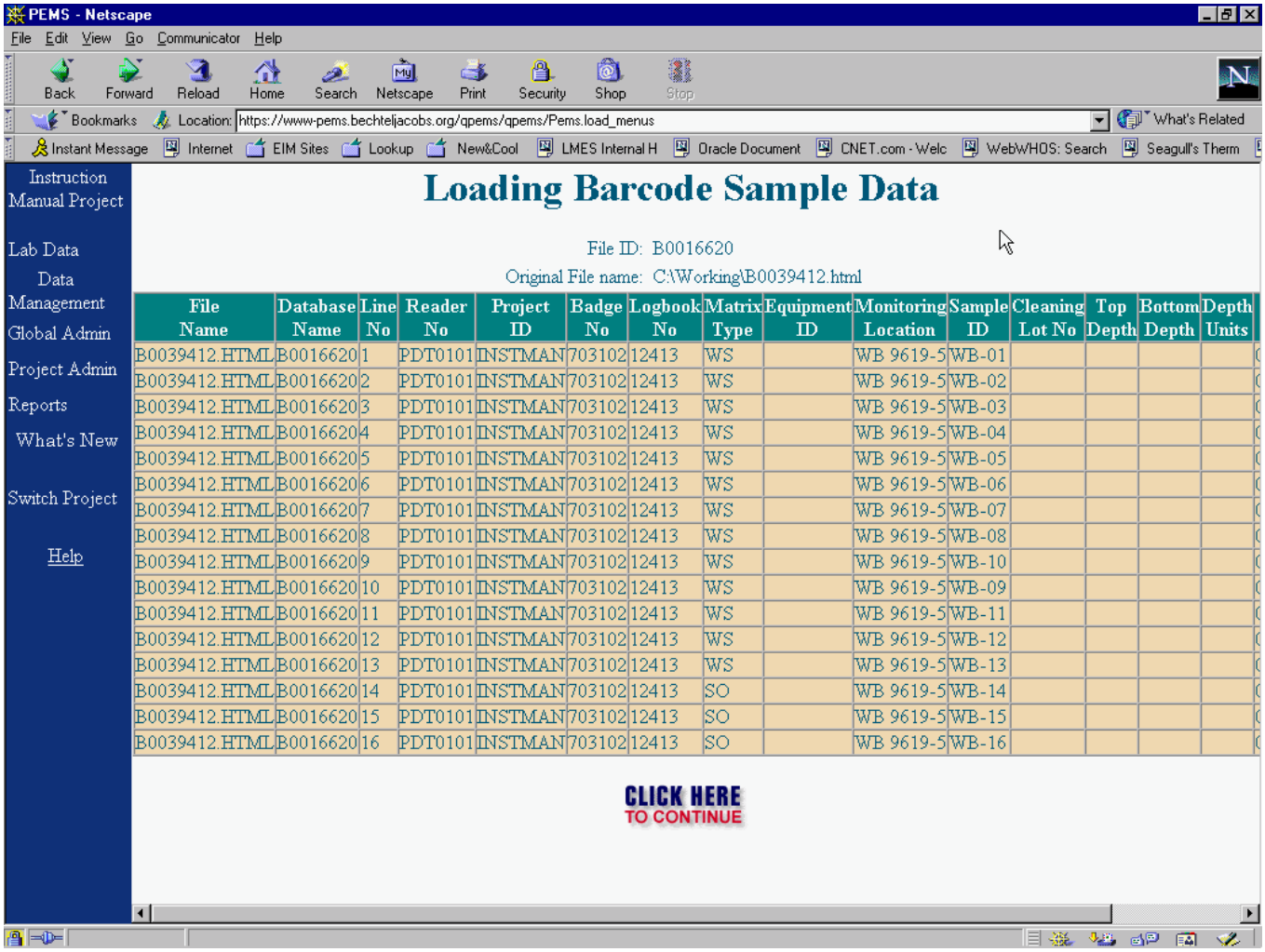


Figure 92

When the data is correct, it will be displayed as in Figure 93. The “Click Here to Continue” button will save the data to the database.



File Name	Database Name	Line No	Reader No	Project ID	Badge No	Logbook No	Matrix Type	Equipment ID	Monitoring Location	Sample ID	Cleaning Lot No	Top Depth	Bottom Depth	Depth Units
B0039412.HTML	B0016620	1	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-01				
B0039412.HTML	B0016620	2	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-02				
B0039412.HTML	B0016620	3	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-03				
B0039412.HTML	B0016620	4	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-04				
B0039412.HTML	B0016620	5	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-05				
B0039412.HTML	B0016620	6	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-06				
B0039412.HTML	B0016620	7	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-07				
B0039412.HTML	B0016620	8	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-08				
B0039412.HTML	B0016620	9	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-10				
B0039412.HTML	B0016620	10	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-09				
B0039412.HTML	B0016620	11	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-11				
B0039412.HTML	B0016620	12	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-12				
B0039412.HTML	B0016620	13	PDT0101	INSTMAN	703102	12413	WS		WB 9619-5	WB-13				
B0039412.HTML	B0016620	14	PDT0101	INSTMAN	703102	12413	SO		WB 9619-5	WB-14				
B0039412.HTML	B0016620	15	PDT0101	INSTMAN	703102	12413	SO		WB 9619-5	WB-15				
B0039412.HTML	B0016620	16	PDT0101	INSTMAN	703102	12413	SO		WB 9619-5	WB-16				

Figure 93

5.3.3 Edit Sample Barcode Reader Data

Barcode data may be edited by using the Edit function and picking the FCOC number to edit.

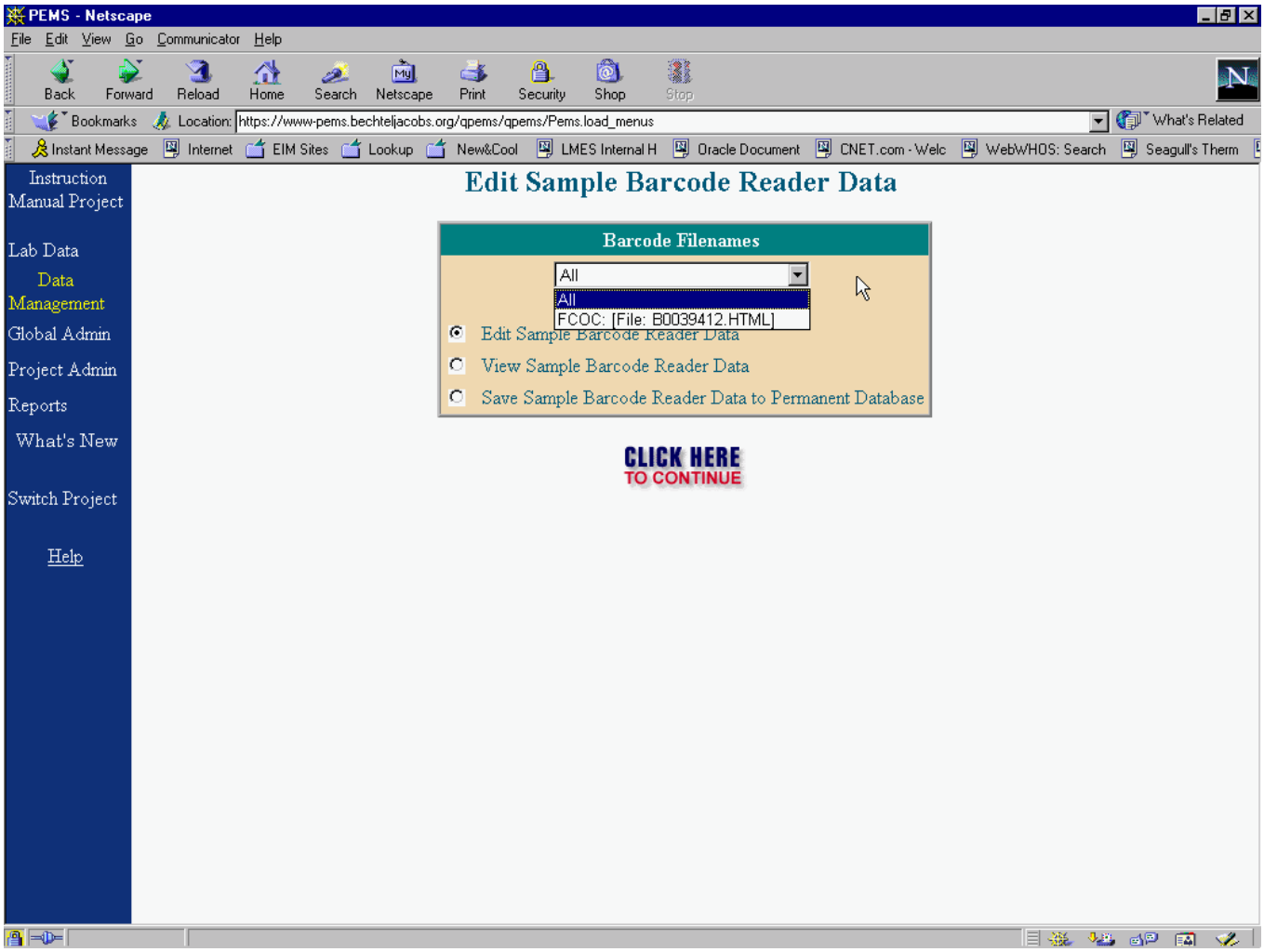


Figure 94

The FCOC data will be displayed. (Figure 95) Each row to be edited may be chosen separately.

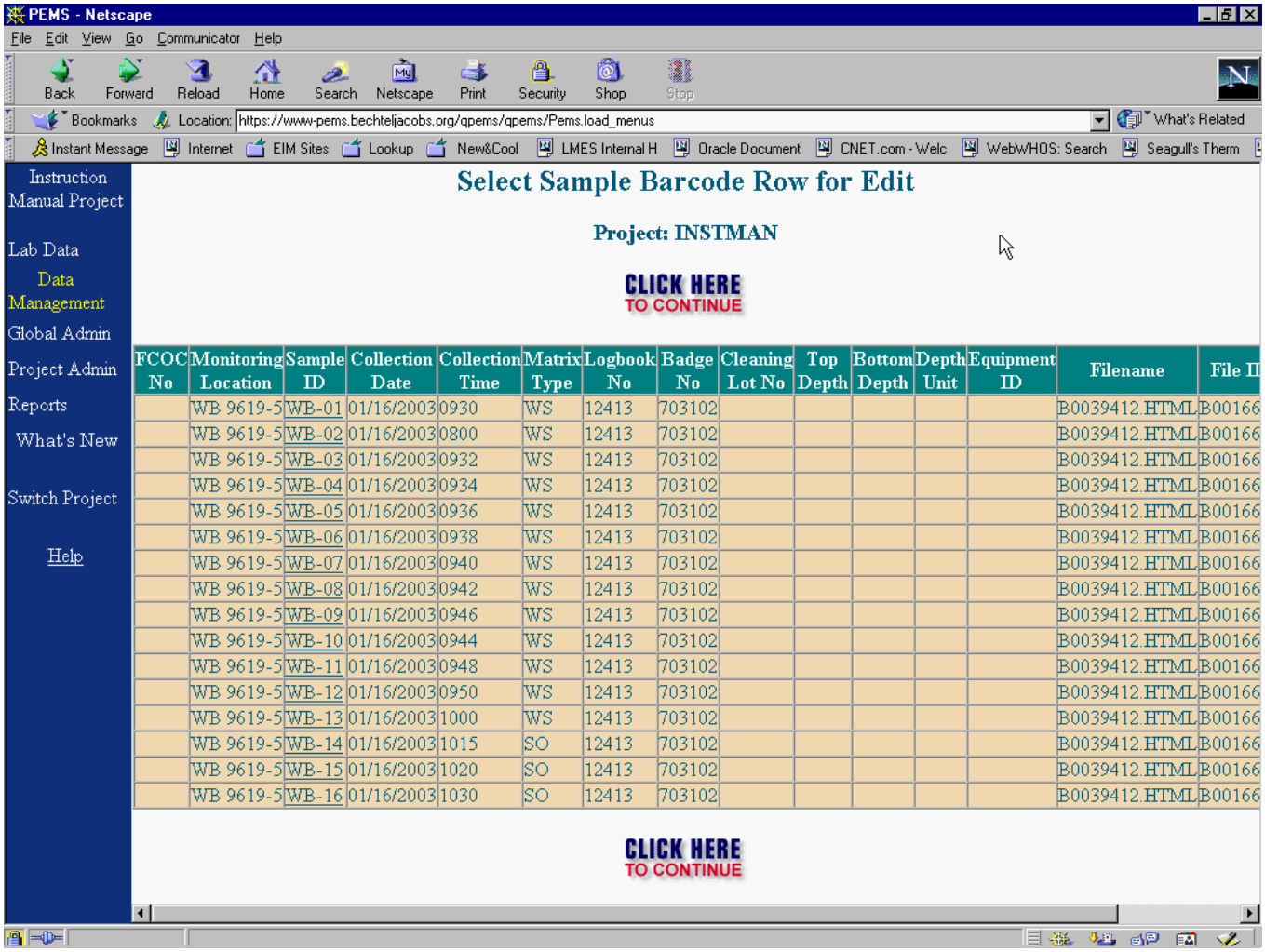


Figure 95

The data may be edited or deleted as needed as shown in Figure 96.

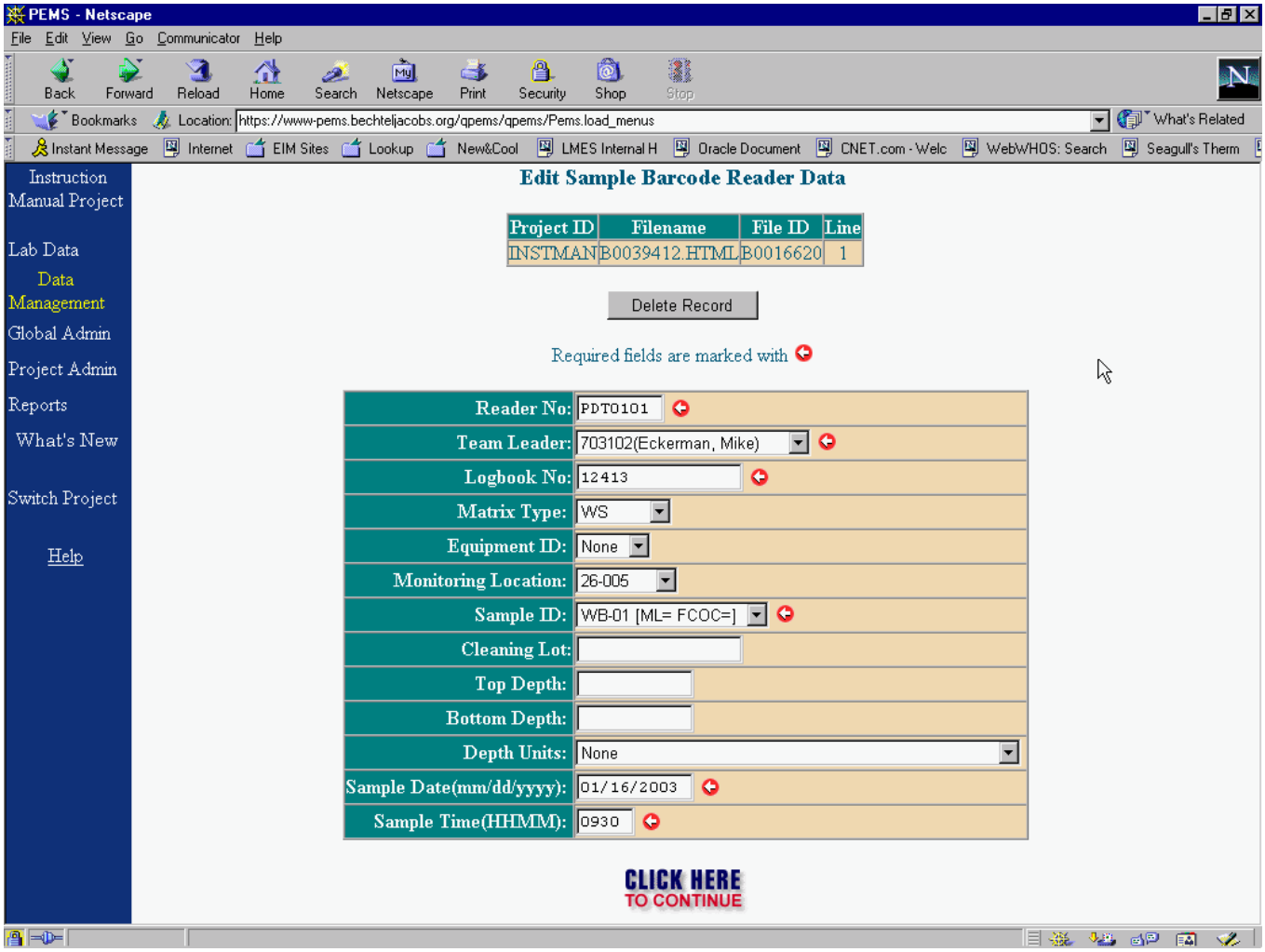


Figure 96

The system will display the corrections that should be made to the data before it is loaded into the database. (Figure 97)

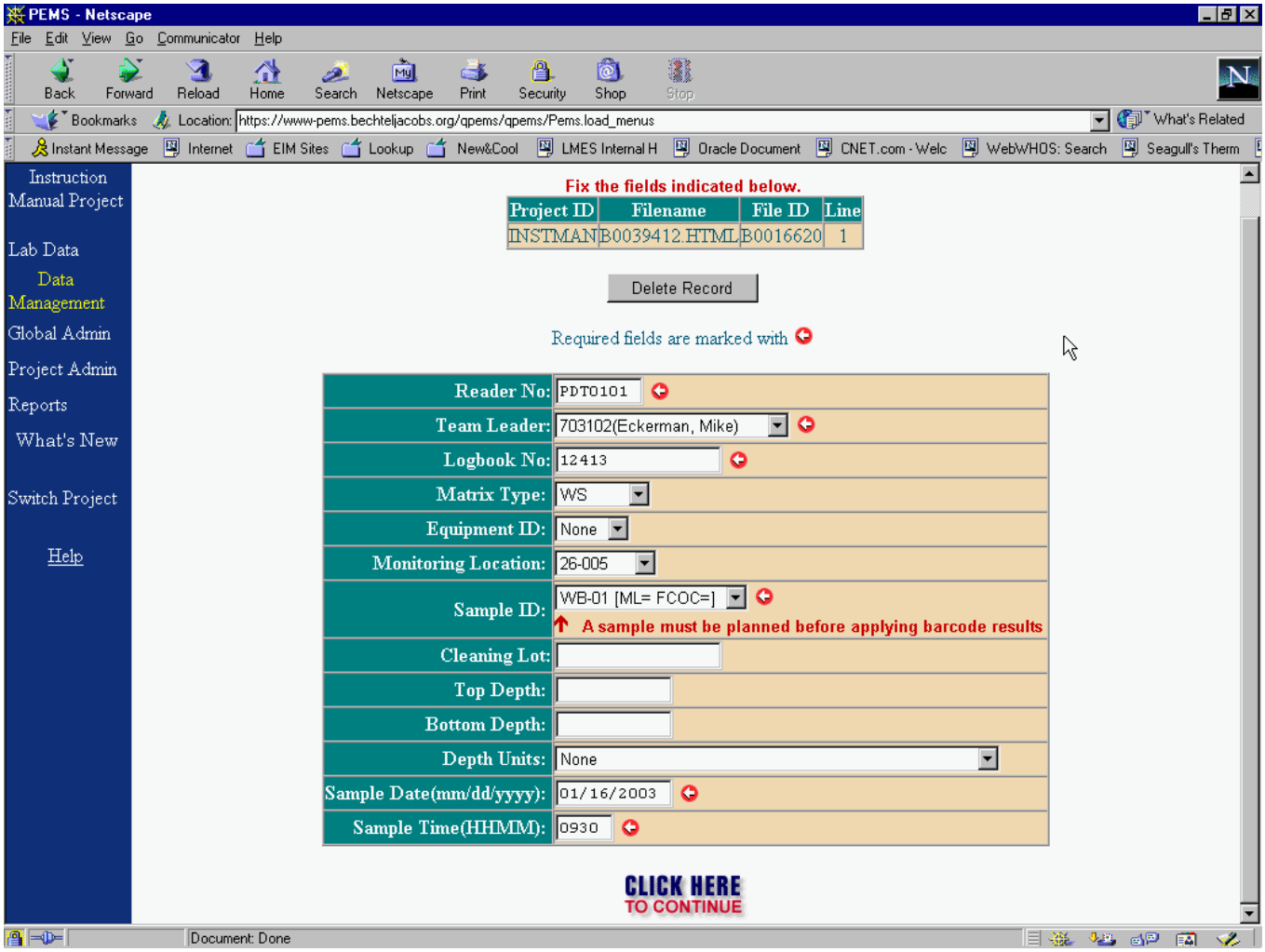


Figure 97

When the barcode data is complete and correct, the system will indicate that it has been saved to the PEMS database as shown in Figure 98.

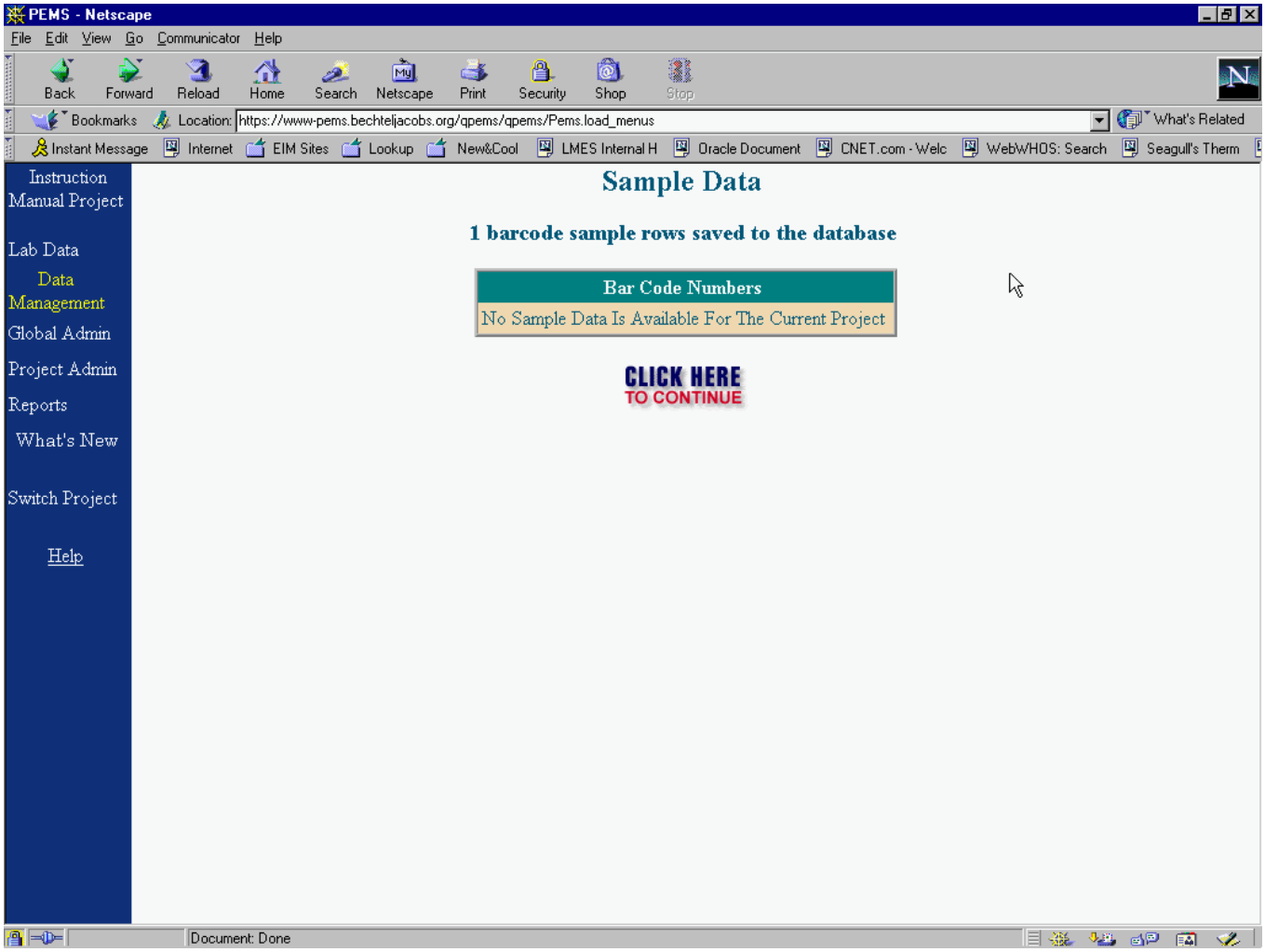

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Sample Data
1 barcode sample rows saved to the database
Bar Code Numbers
No Sample Data Is Available For The Current Project
CLICK HERE
TO CONTINUE
Document: Done

Figure 98

5.4 Field Measurements

From the Data Management main screen, the user may click on Field Measurements. The three radio buttons allow the user to enter any field measurements taken during sampling activities, print them or delete as appropriate. (Figure 99)

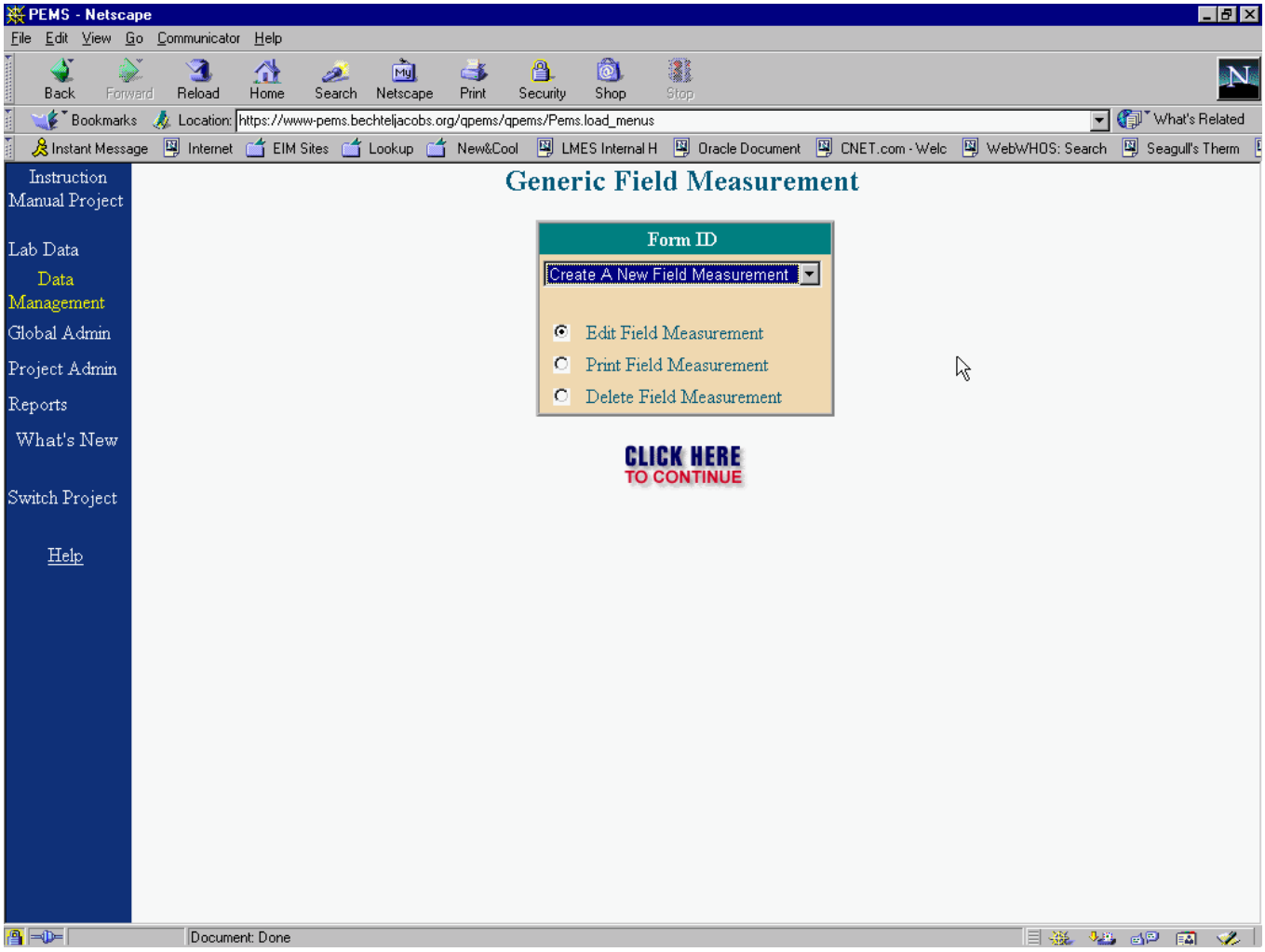


Figure 99

Users have several options for field measurement data entry.

1. Create a new field measurement by directly entering field data.
2. Create a new template. This feature is good for on-going projects collecting a standard set of field measurements.
3. Managing existing templates

Templates are easy organization tools if the project has standard sets of field measurement. They can be set up in any order and can be renamed. It is especially

helpful in ensuring the units are correct per project requirements. Templates can be created for the current project only. (See Figure 100) Name the template and pick the units associated with that field measurement. They can be changed by hand during data entry. Using the 'Click Here to Continue' saves the data.

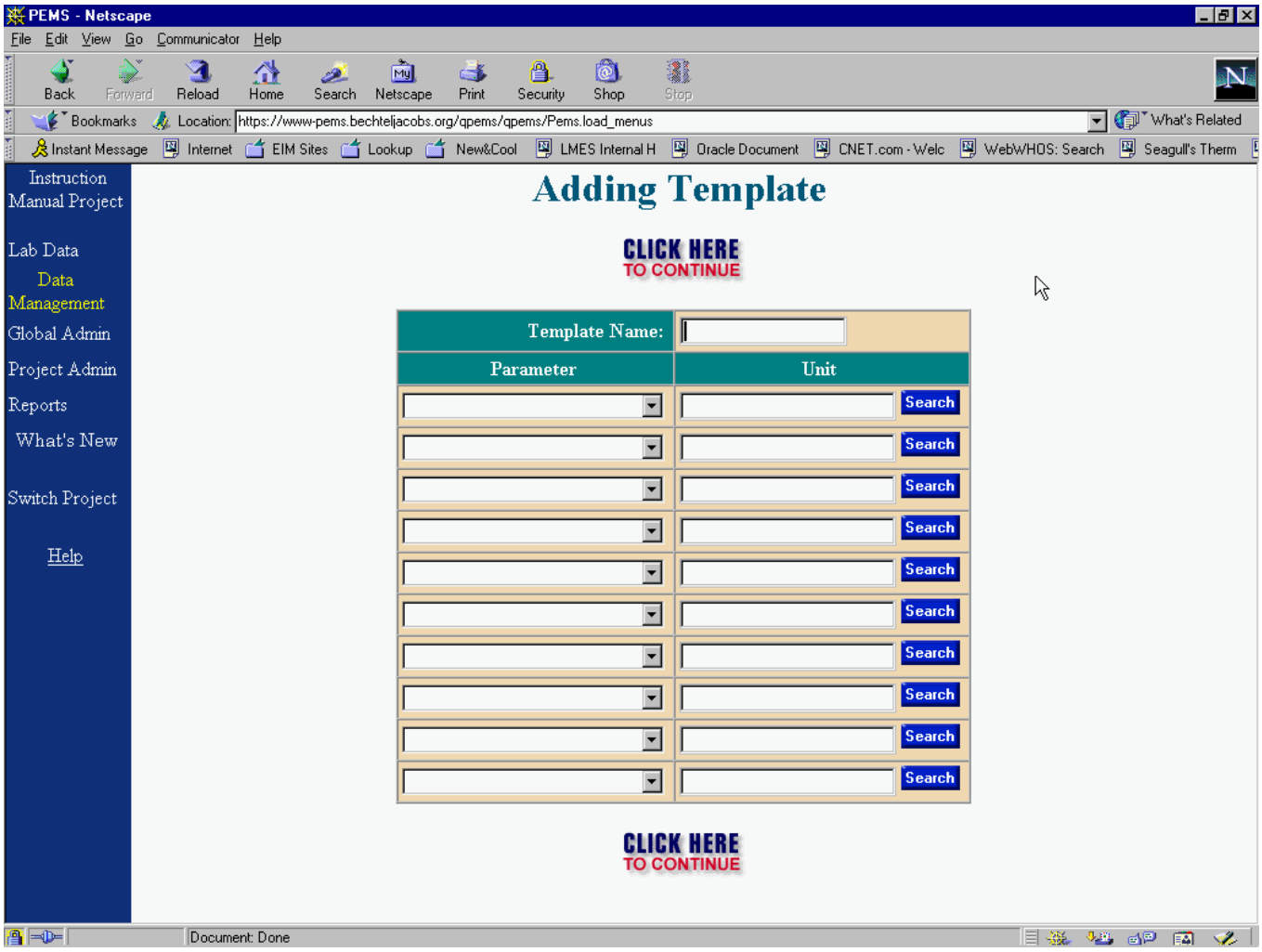


Figure 100

Templates can be copied from one project to another project by using the copy function and making the new template name unique. The user must be logged into the project to which the template will be copied.

A template can be deleted if it doesn't suit the user's current needs or a mistake is made in the entry process.

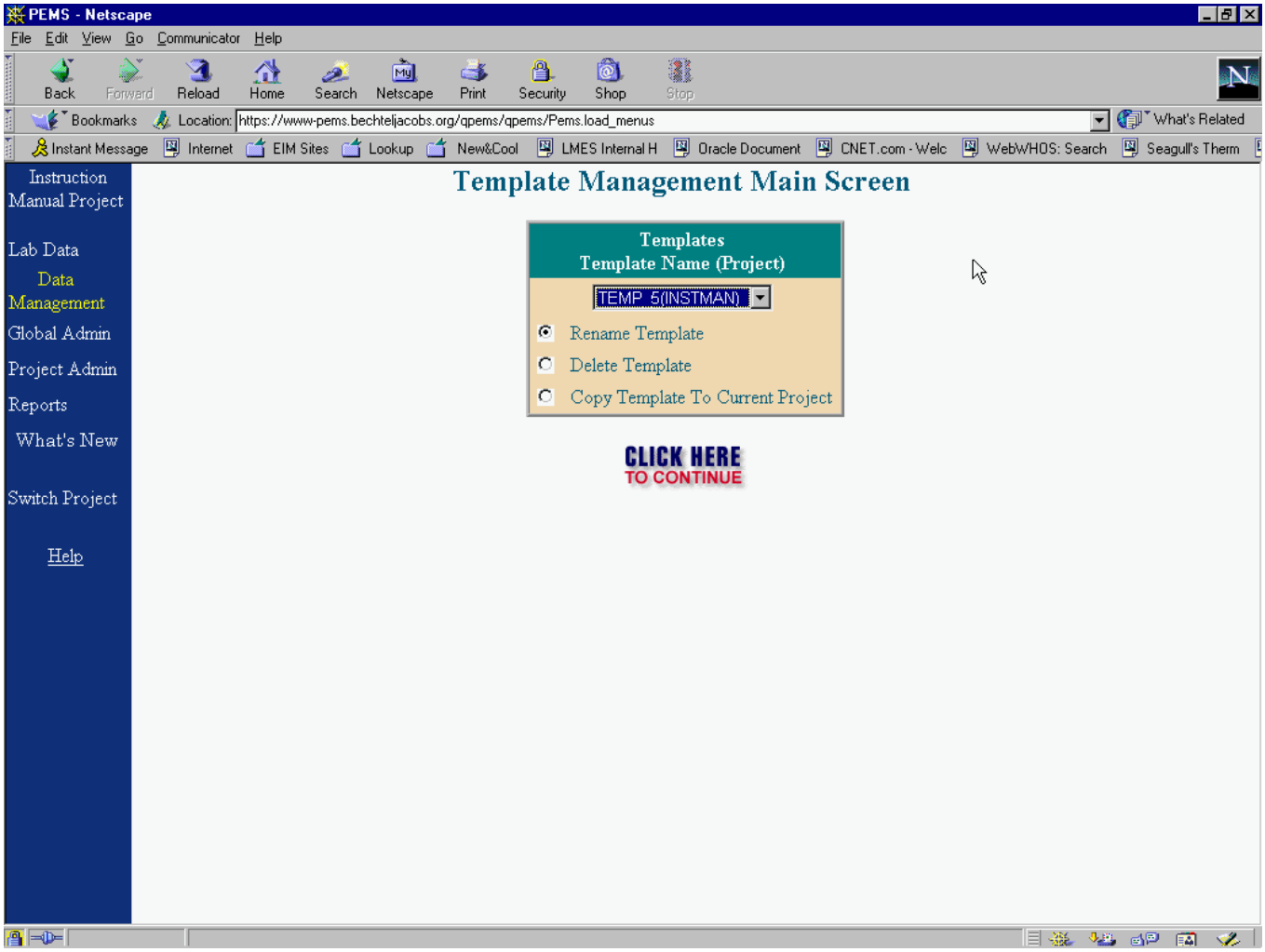


Figure 101

The user may choose the appropriate template from a drop down list of templates for a project.

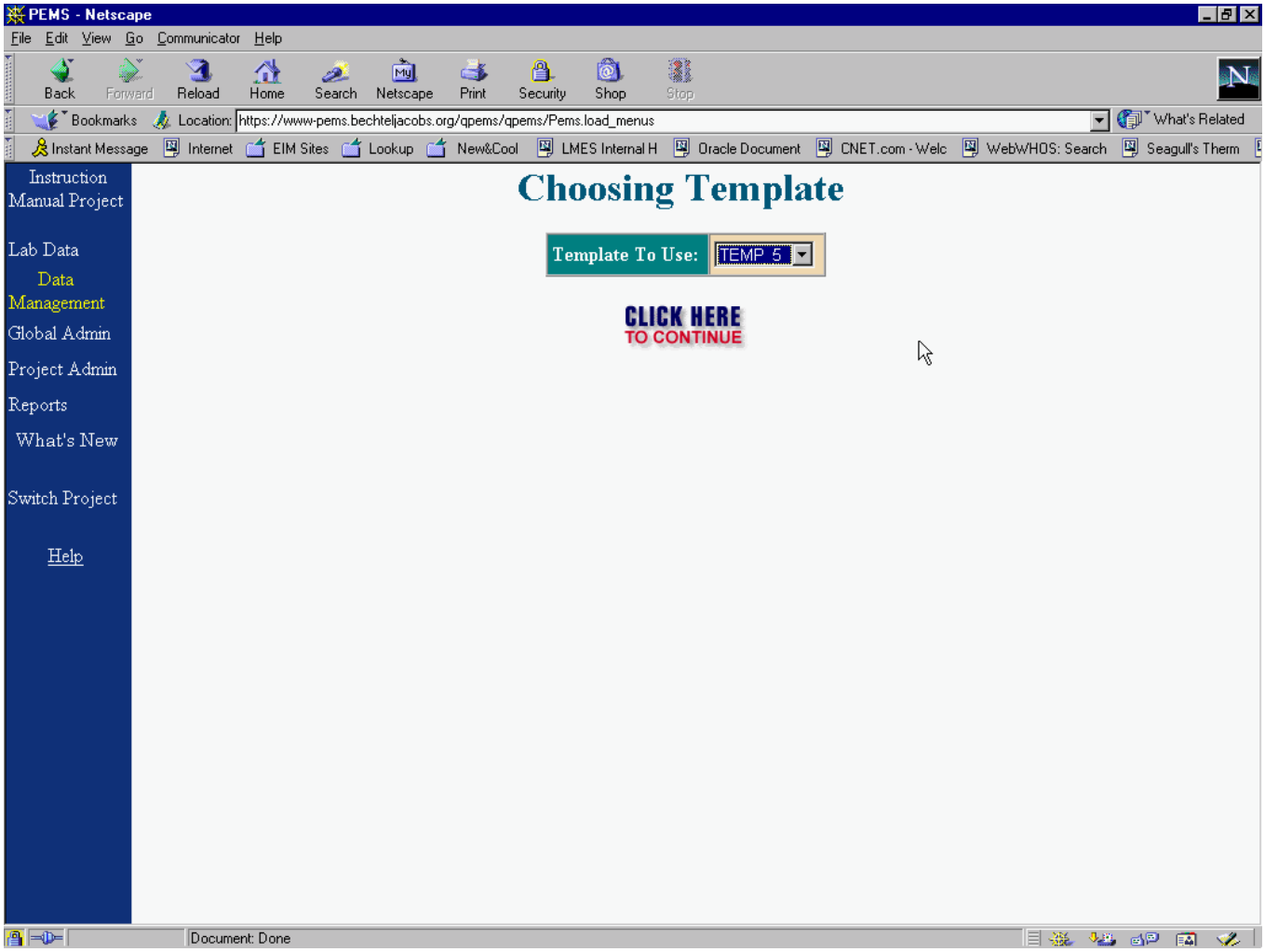


Figure 102

The ‘Edit Generic Field Measurement’ screen allows the user to enter generic field measurements by entering header information applicable to one or multiple individual field measurements. (Figure 103)

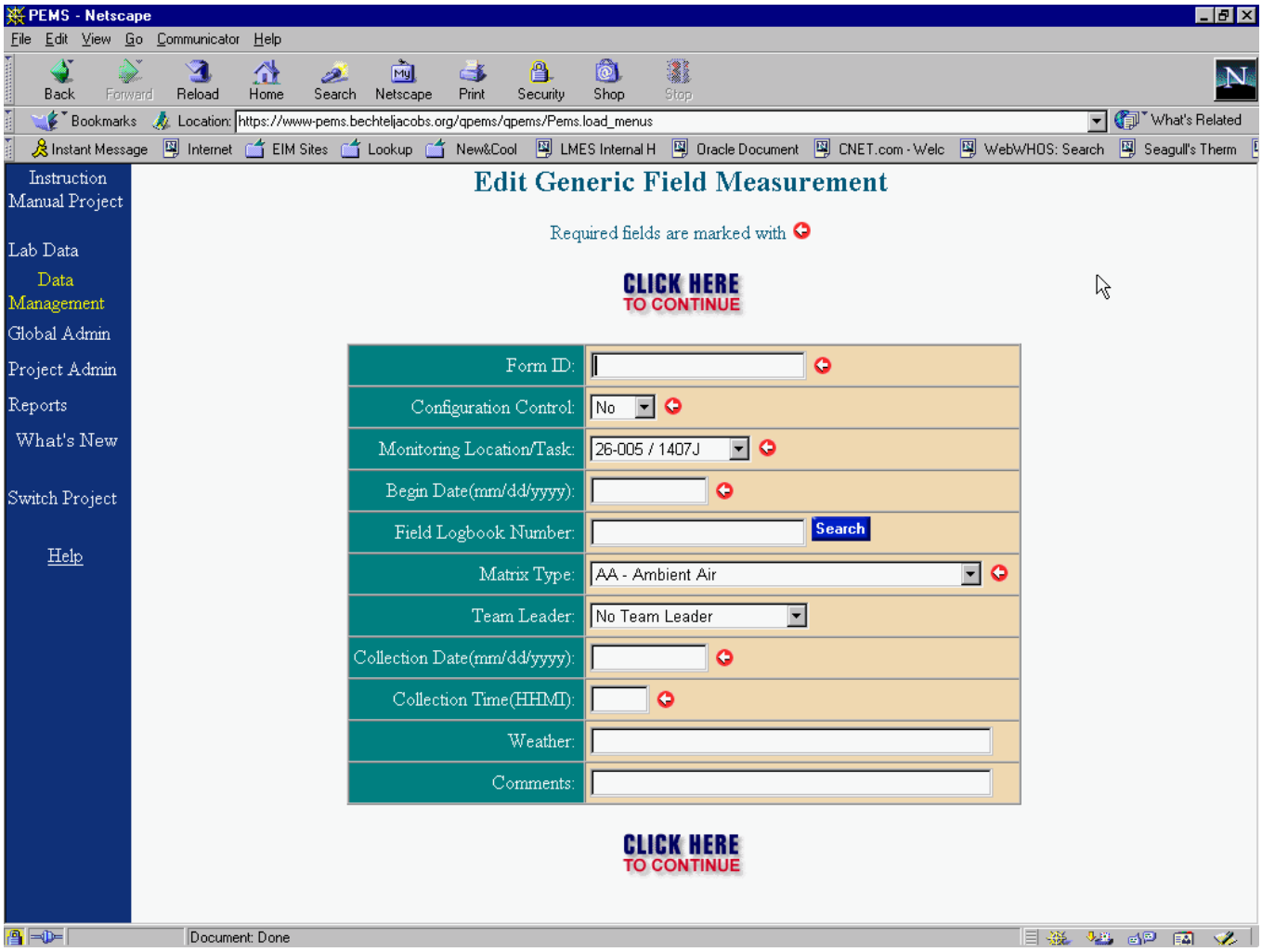


Figure 103

Only the fields with arrows are mandatory. The form ID number must be unique within the project. The configuration control option allows the field measurement to be “locked” to prevent changes. This option should be used only after data entry and review. The begin date and collection date are frequently the same (i.e., the date measurement was taken in the field). The team leader field has a pick list of names that are populated in the Global Admin/Badged Person section of PEMS.

Select ‘Add New Field Parameter(s)’ to enter field measurement results.

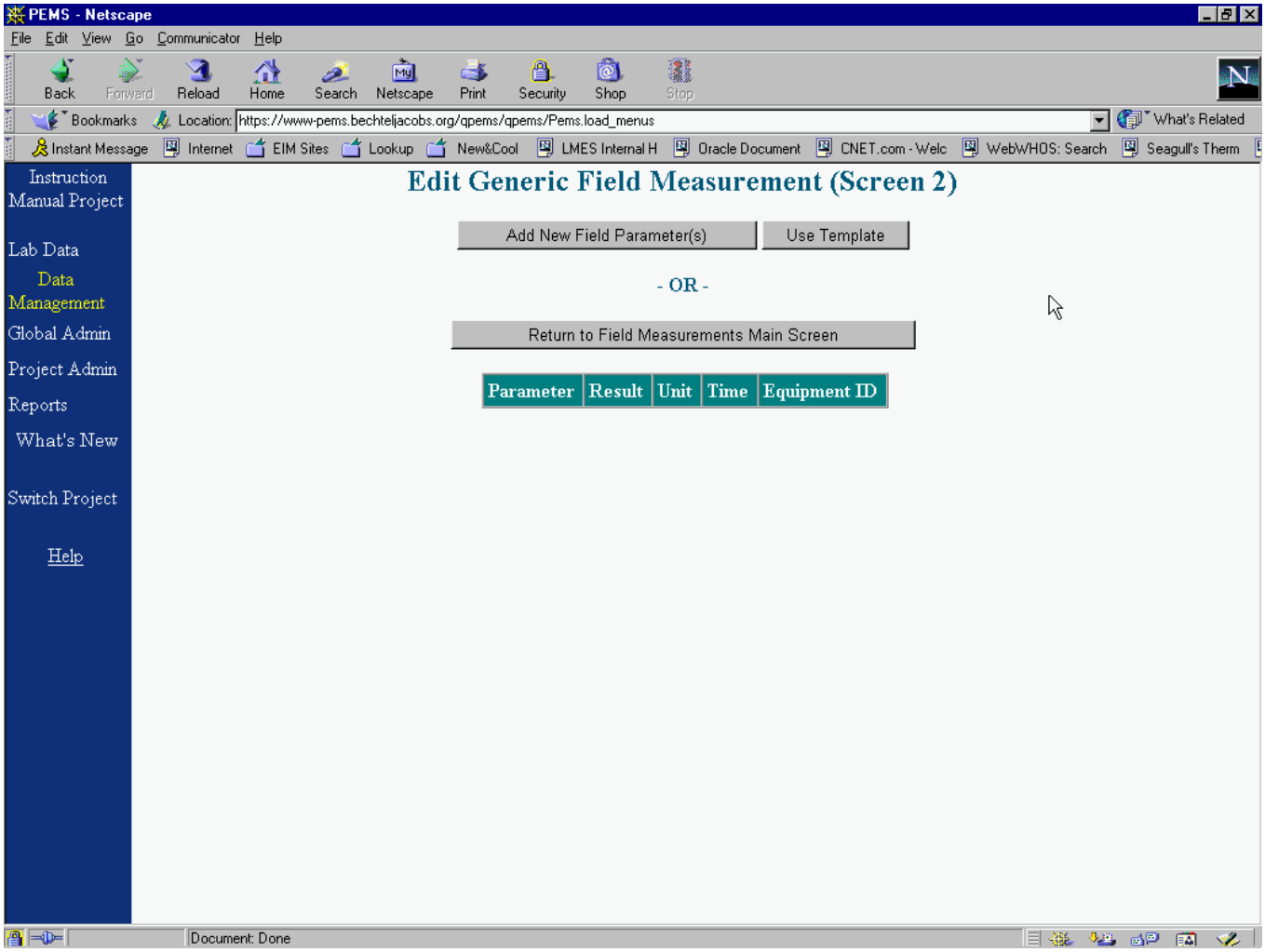


Figure 104

To directly enter individual field measurements into the PEMS database, users can select the parameter name(s) from the drop down list and enter the results and appropriate units. (Figure 105)

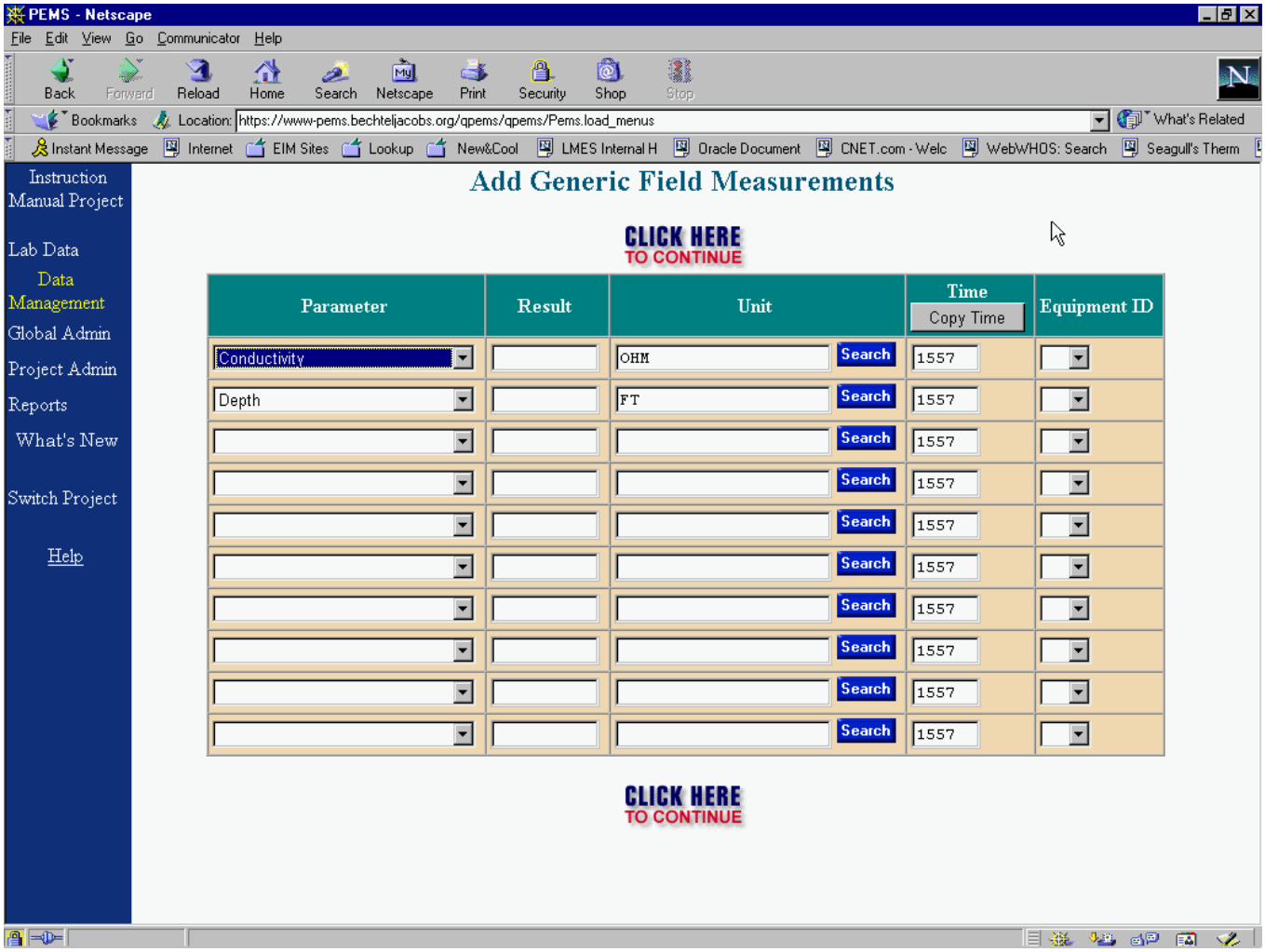


Figure 105

A single field measurement may be edited if needed as shown in Figure 106.

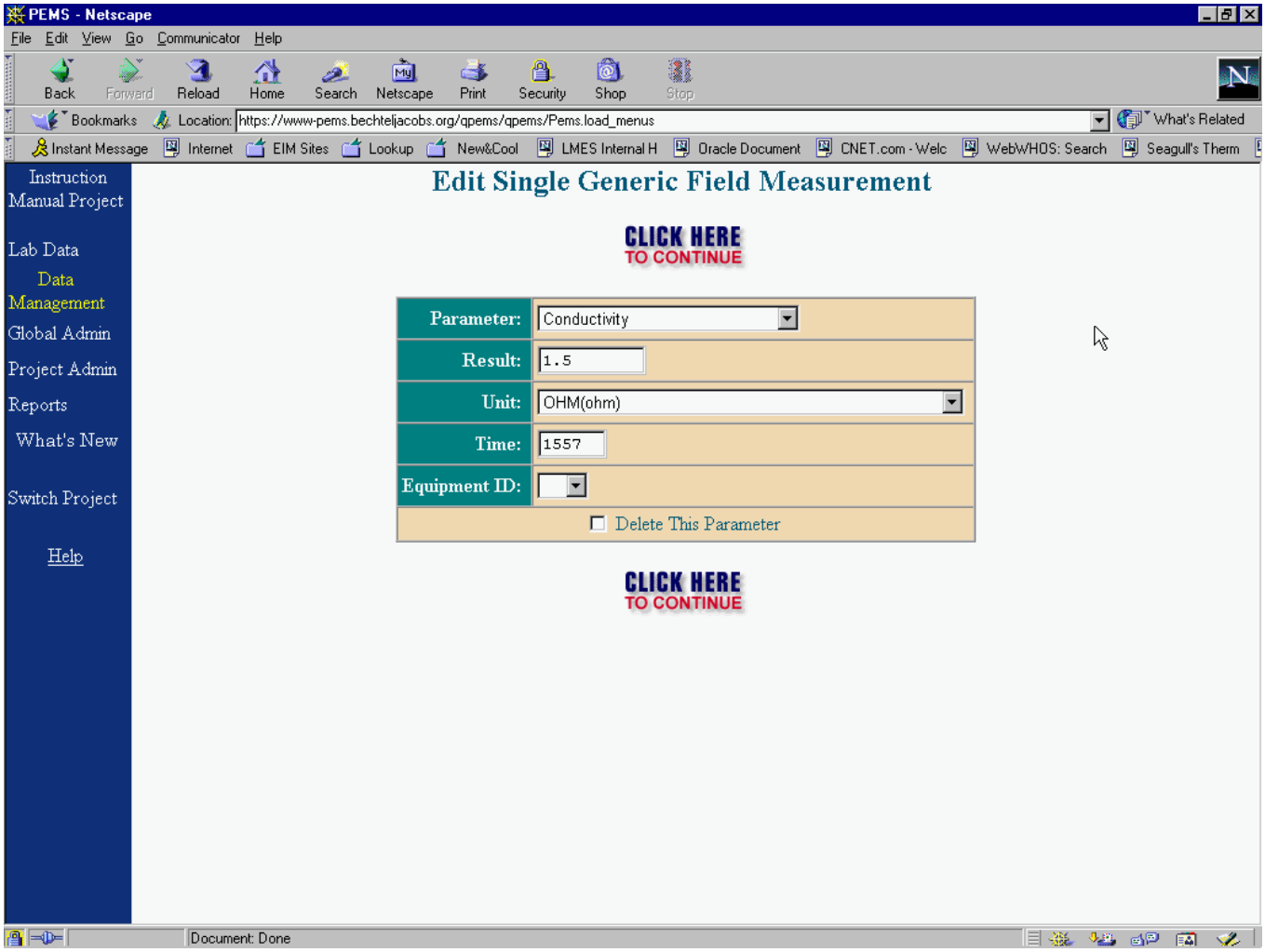


Figure 106

5.5 Associate Samples

Regular samples can be associated or linked with the appropriate quality control samples. Select the desired QC sample id.

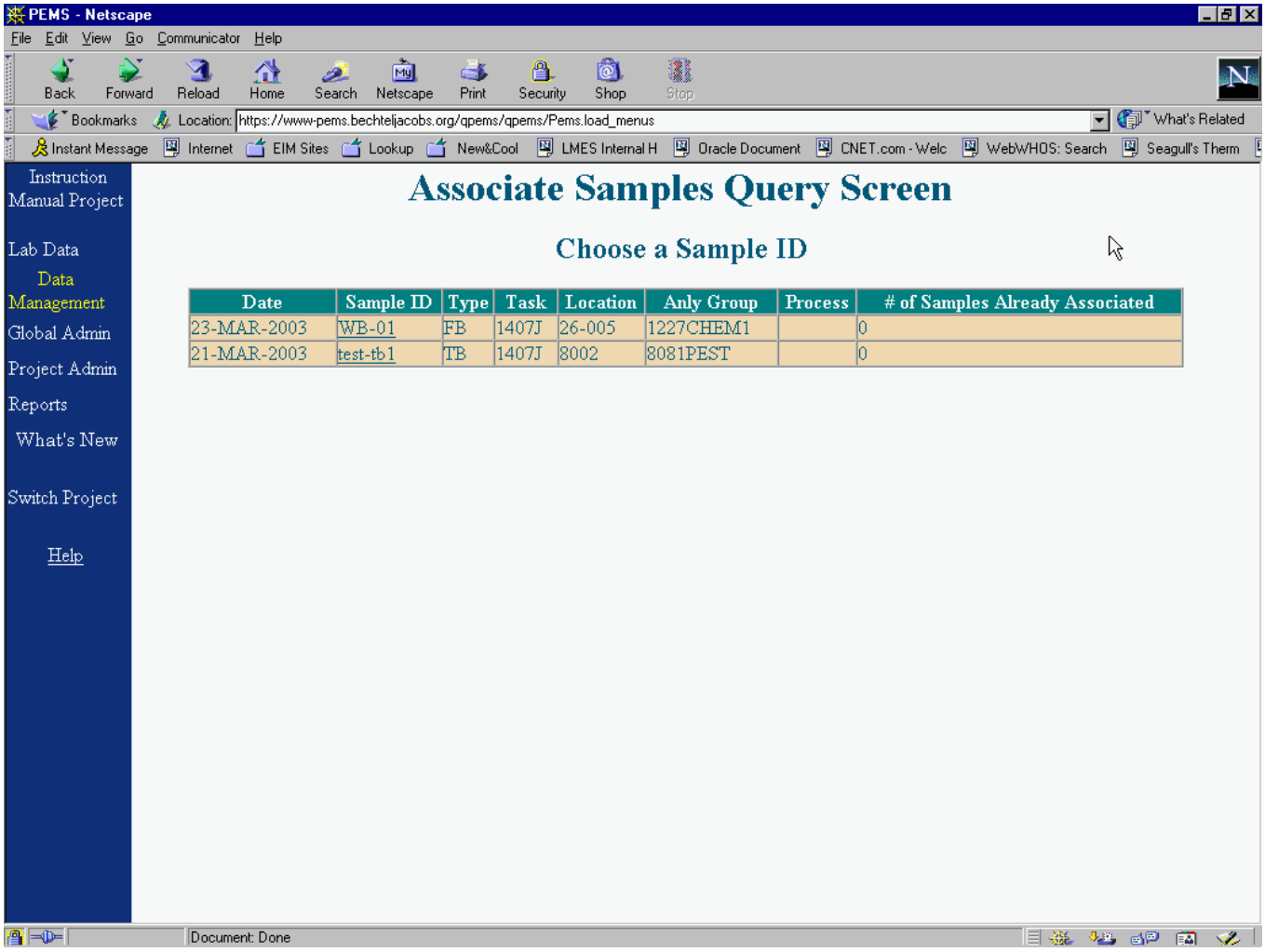


Figure 107

Select the ‘Add Associate Sample ID(s) to this Sample’ option as shown in Figure 108.

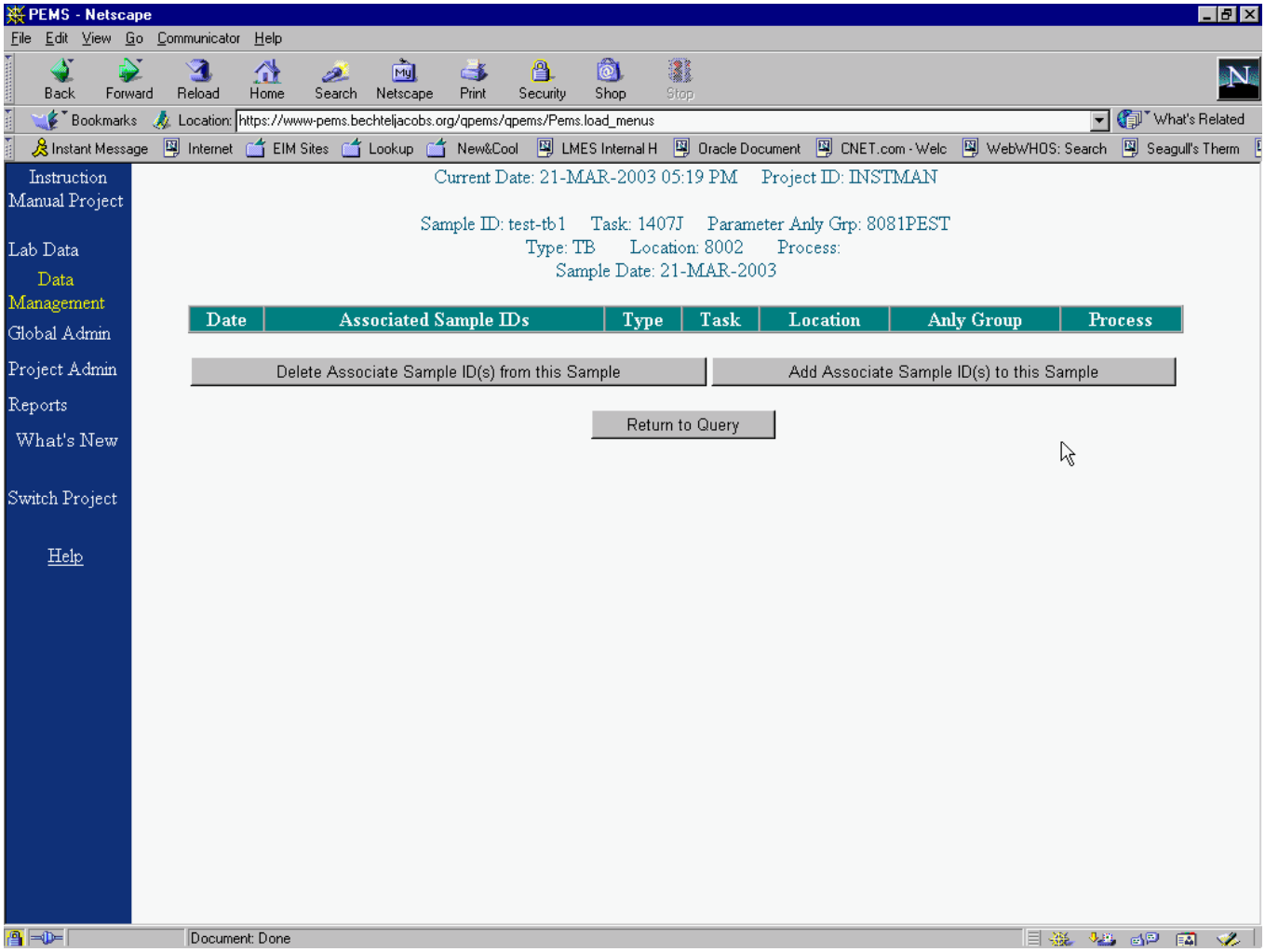


Figure 108

Click on the check boxes for regular samples to associate with the appropriate QC sample.

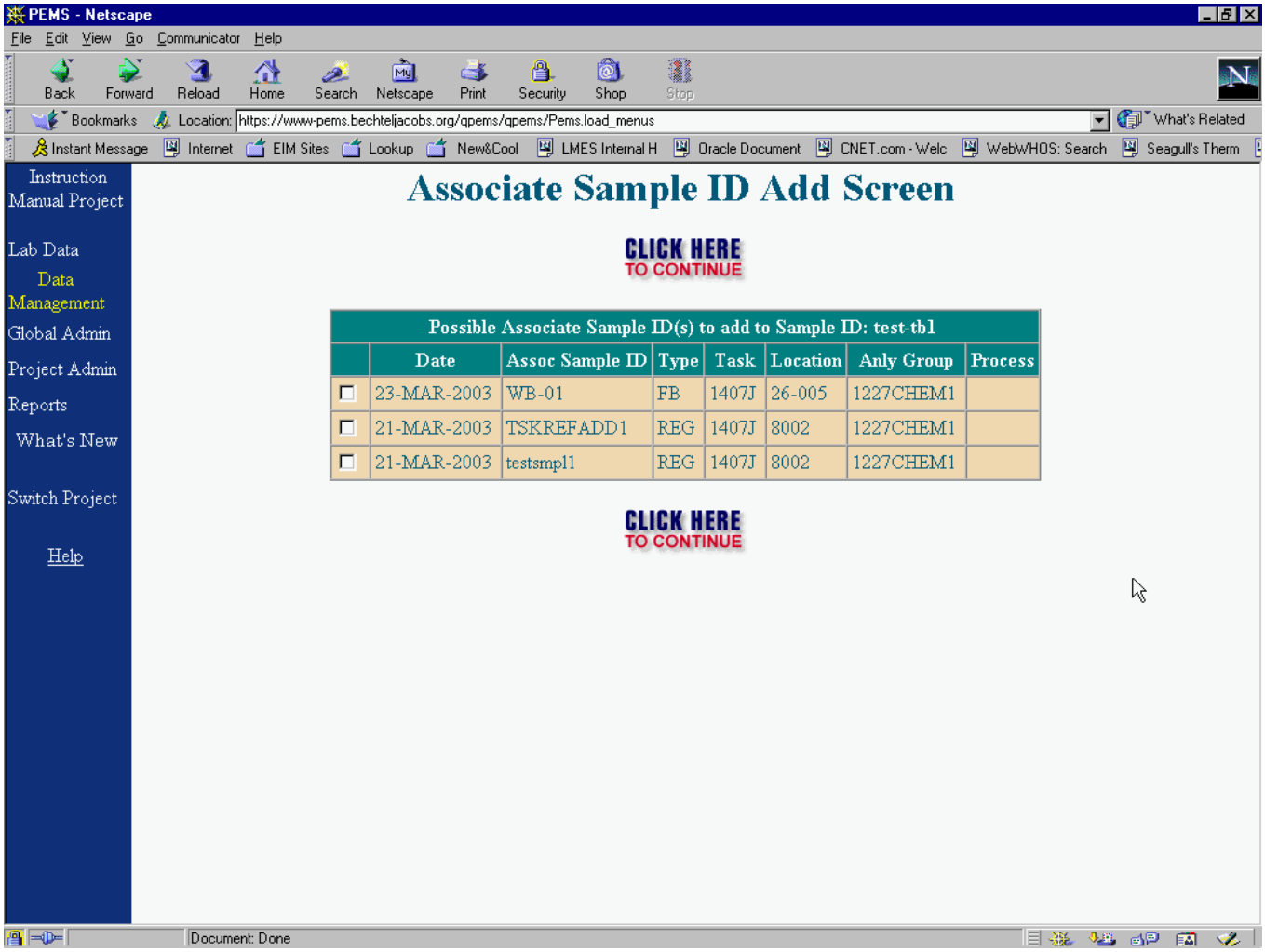


Figure 109

PEMS will display a table showing the associations the user created. Associations between regular and QC samples can be removed by using the delete function shown in Figure 110.

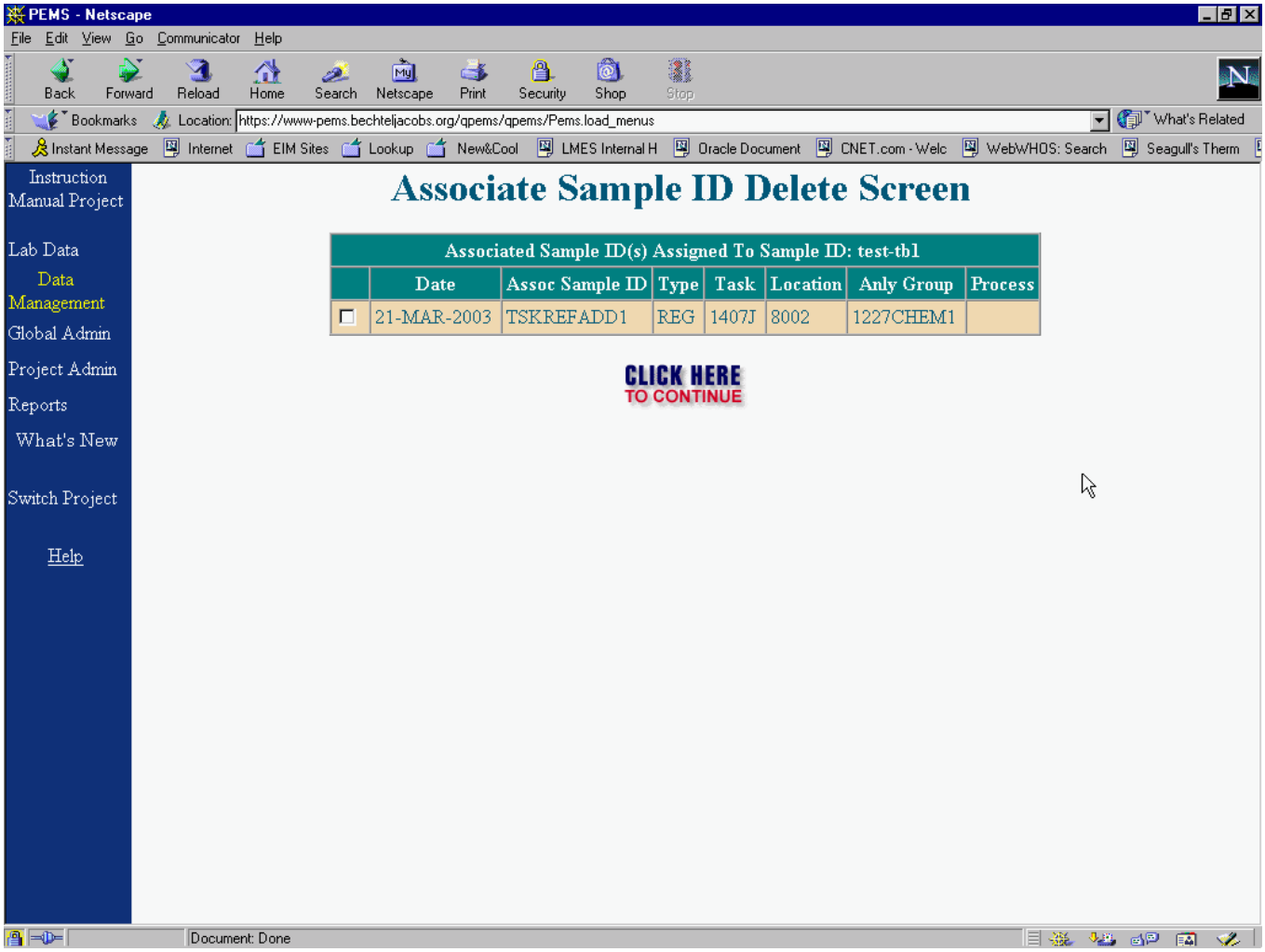

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Associate Sample ID Delete Screen
Associated Sample ID(s) Assigned To Sample ID: test-tbl
Date
Assoc Sample ID
Type
Task
Location
Anly Group
Process
21-MAR-2003
TSKREFADD1
REG
1407J
8002
1227CHEM1
CLICK HERE
TO CONTINUE
Document: Done

Figure 110

5.6 Associate Samples to Field Measurements

Samples can be associated to field measurements using this function. The association criteria are Location and Matrix. Select the desired sample ID and the appropriate criteria.

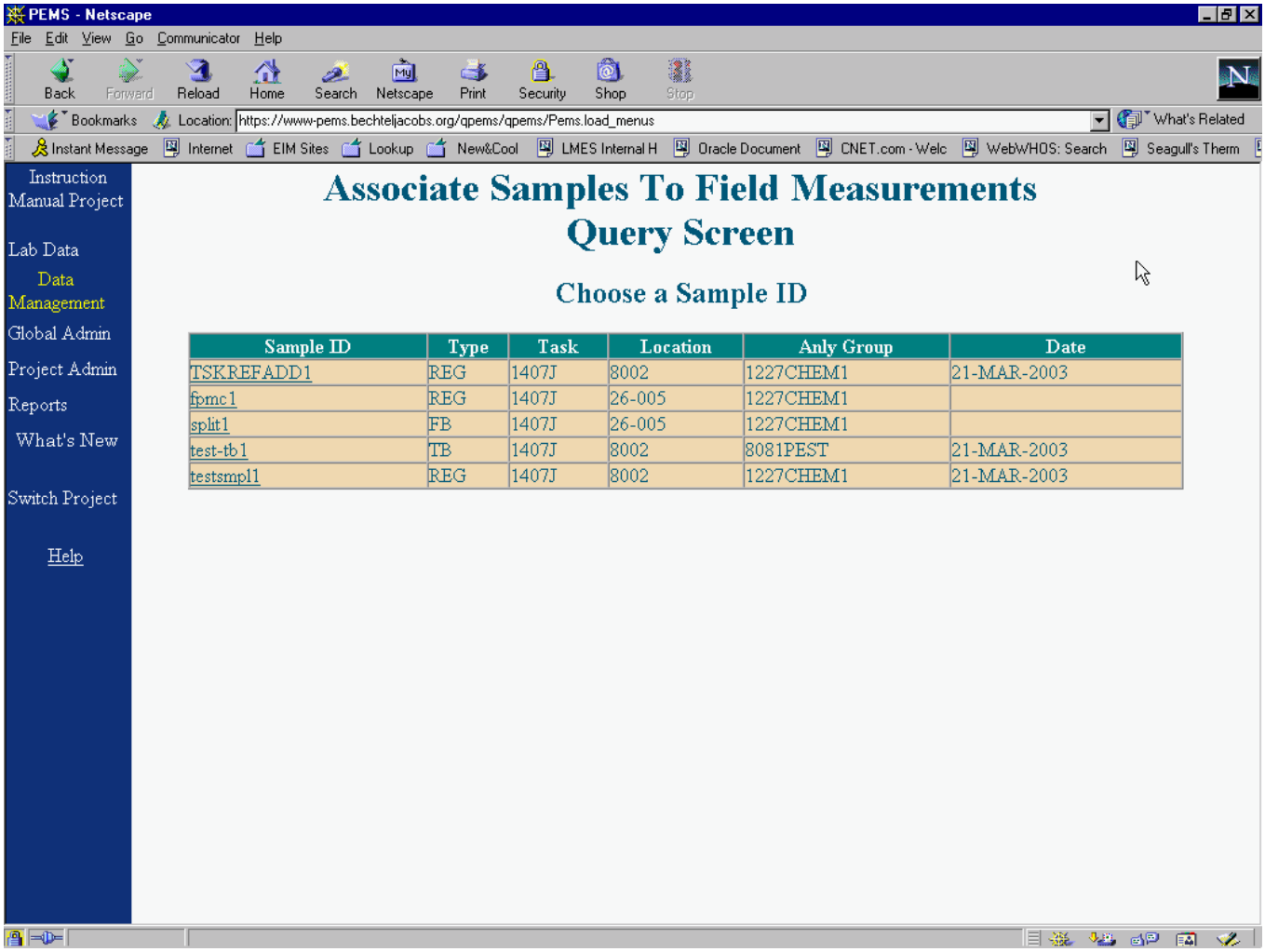


Figure 111

Next, select the ‘Add Associate Field Measurement to the Sample’ option (Figure 112).

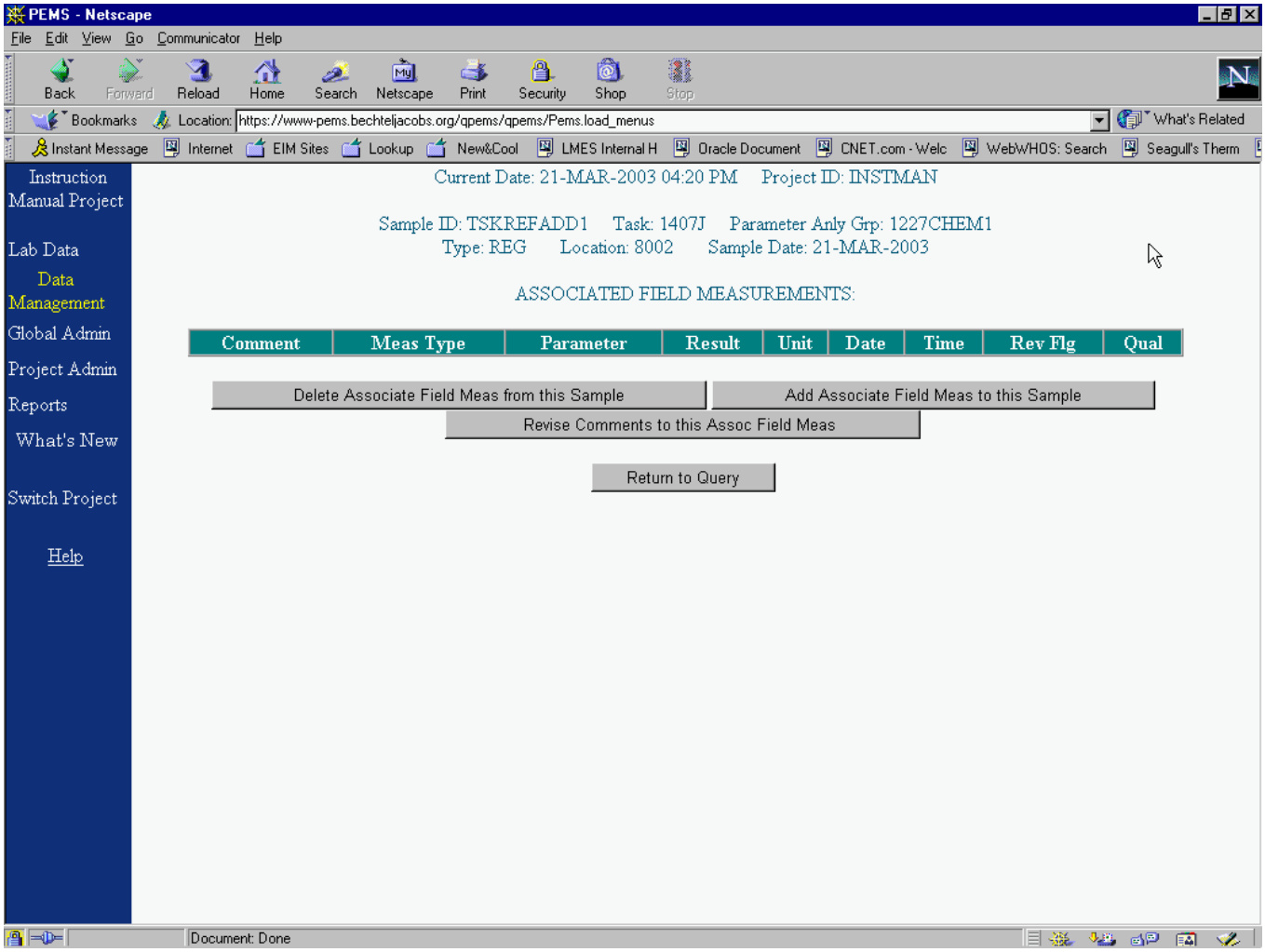


Figure 112

Check the box next to the applicable field measurement. Save the information by selecting 'Click here to continue'.

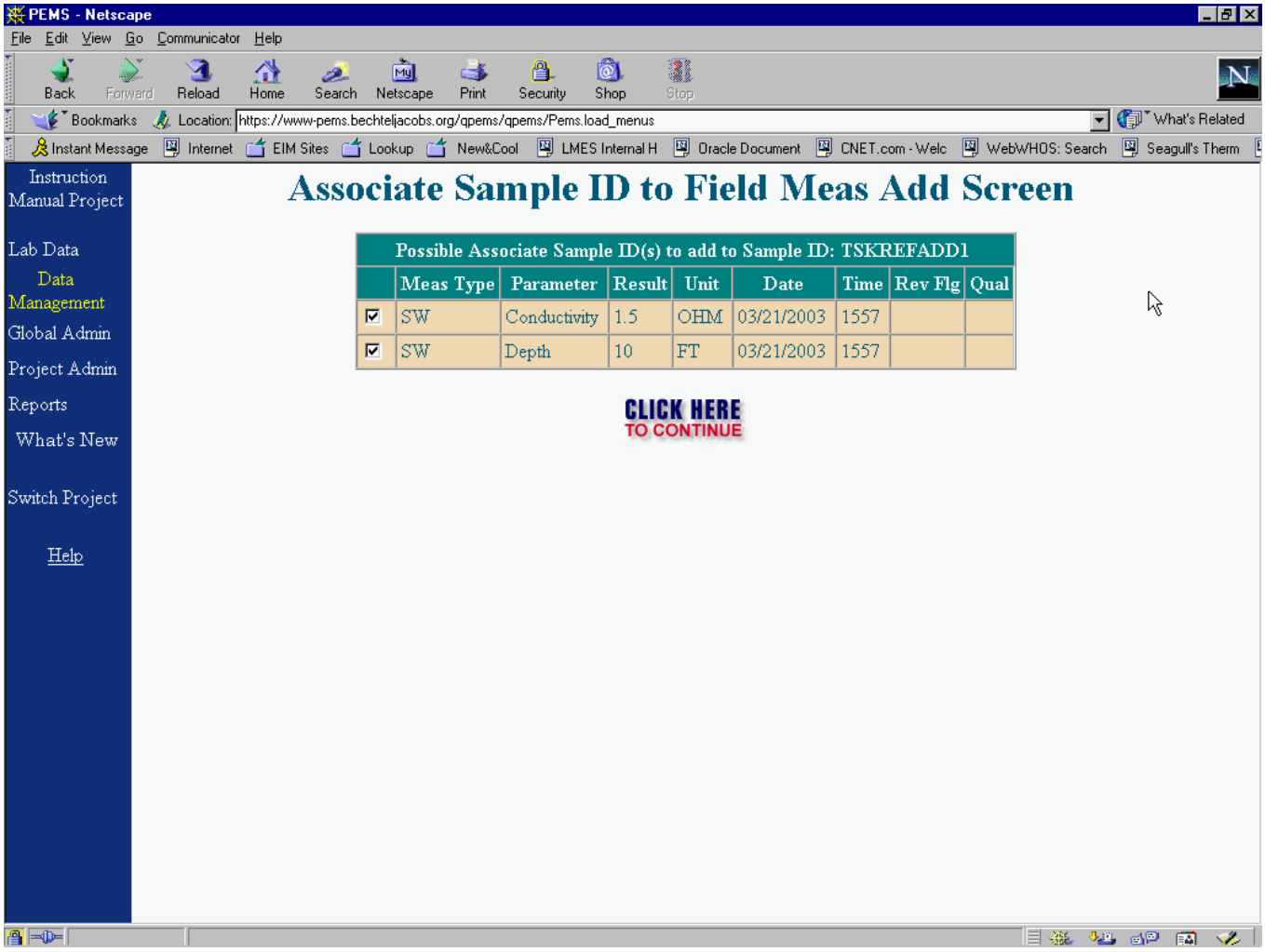


Figure 113

Associations between samples and field measurements can be removed using the delete option. Click in the box of the row to be deleted, then “Click Here to continue’ to save the information.

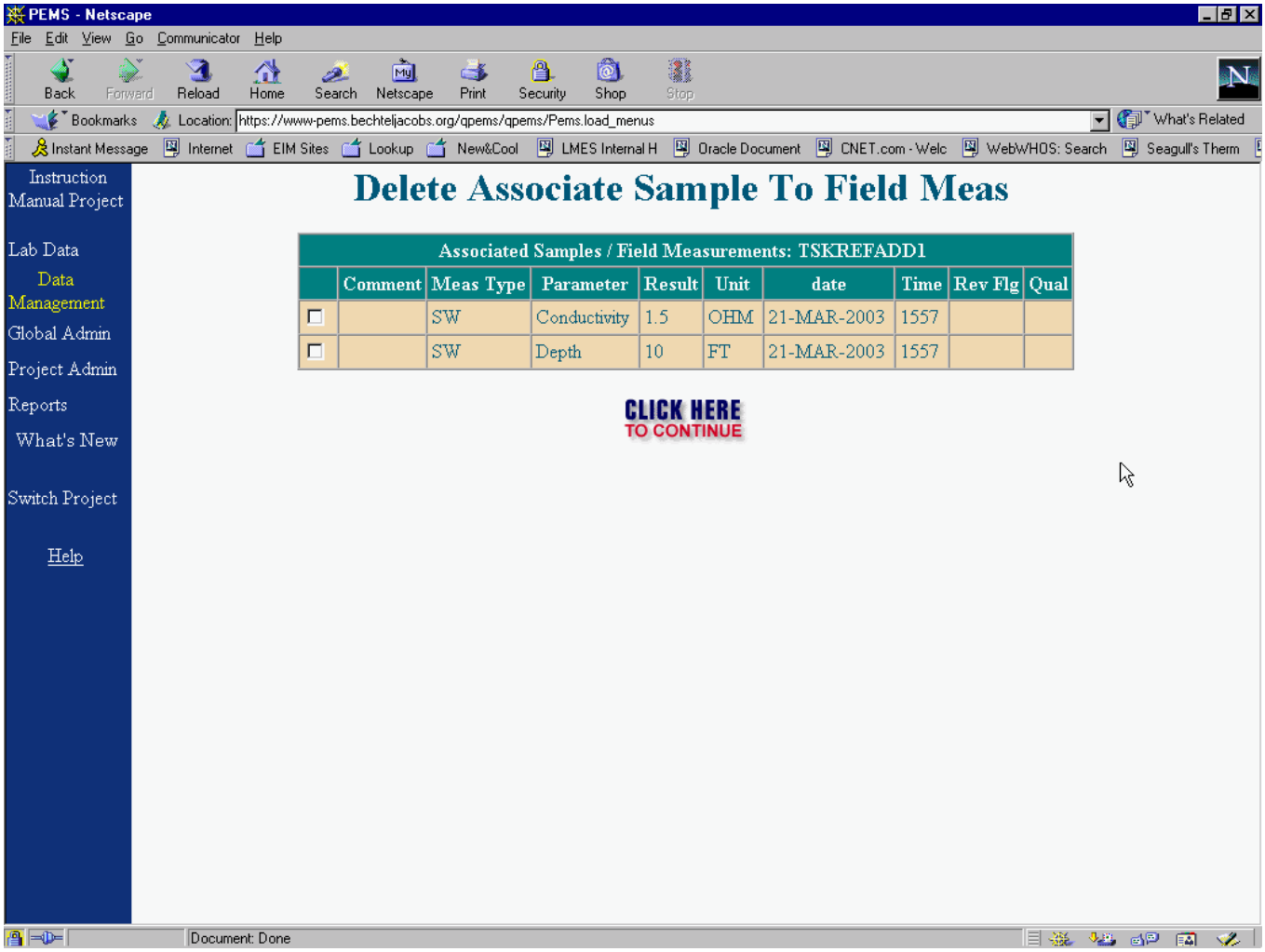


Figure 114

Comments may be added through the ‘Revise comments to field Meas/Asoc Sample’ option shown in Figure 115.

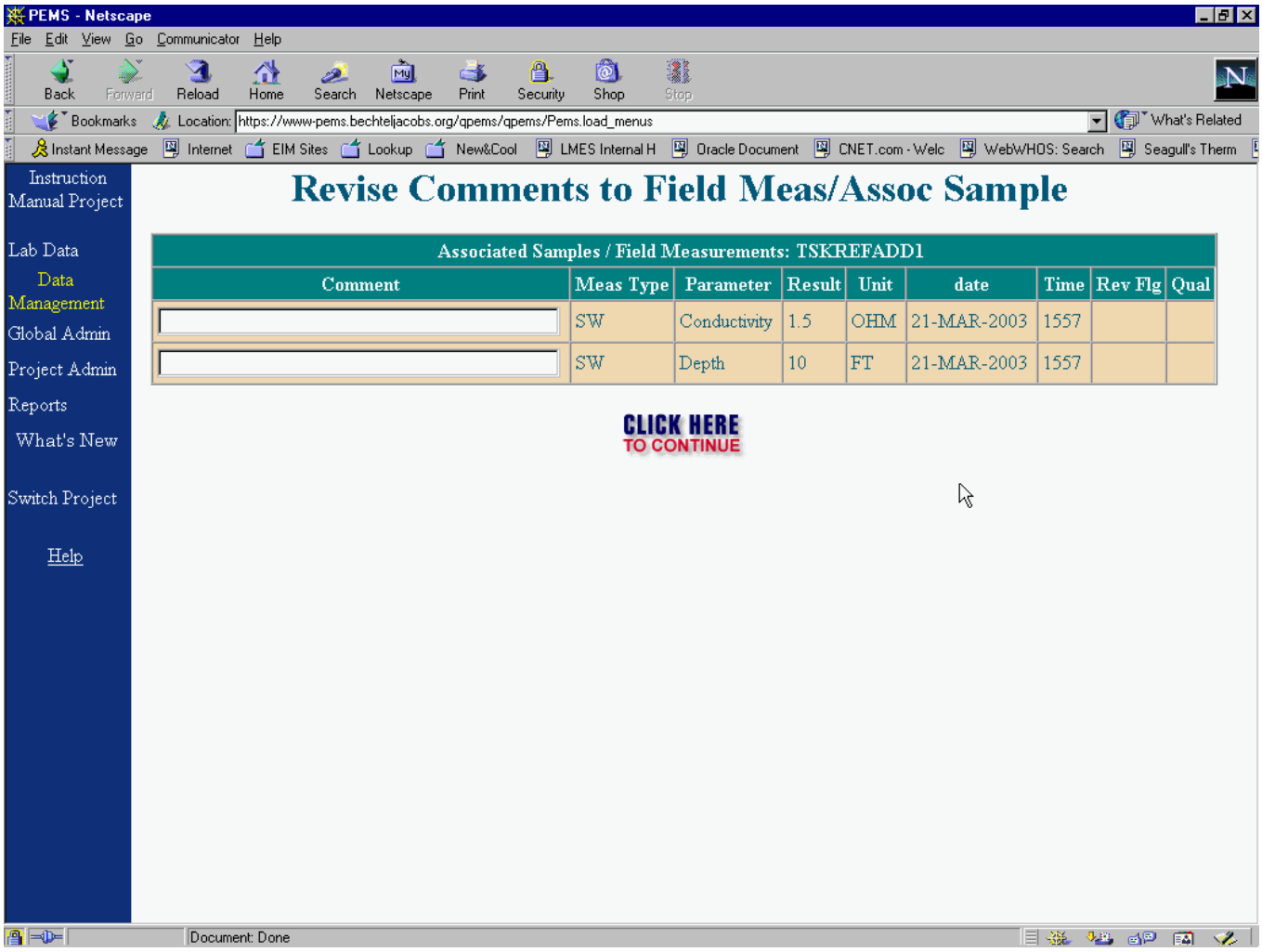


Figure 115

6.0 Laboratory Data

All laboratories must use the AMSED electronic data deliverable (EDD) format in order to load data into PEMS. This is accomplished utilizing the application under the Lab Data menu in the left frame of the PEMS system. Users with the proper roles (e.g., PDC) can retrieve copies of EDD files using the "Get a Hard Copy of EDD Data From the Database' button and can view the file history and SOW information. These users can get a missing analytes report to ensure all results are loaded into PEMS.

6.1 Transfer and Validate EDD Data

The appropriate laboratory will log on to PEMS and load data files from this menu using the 'Transfer and Validate EDD Data' application shown in Figure 117.

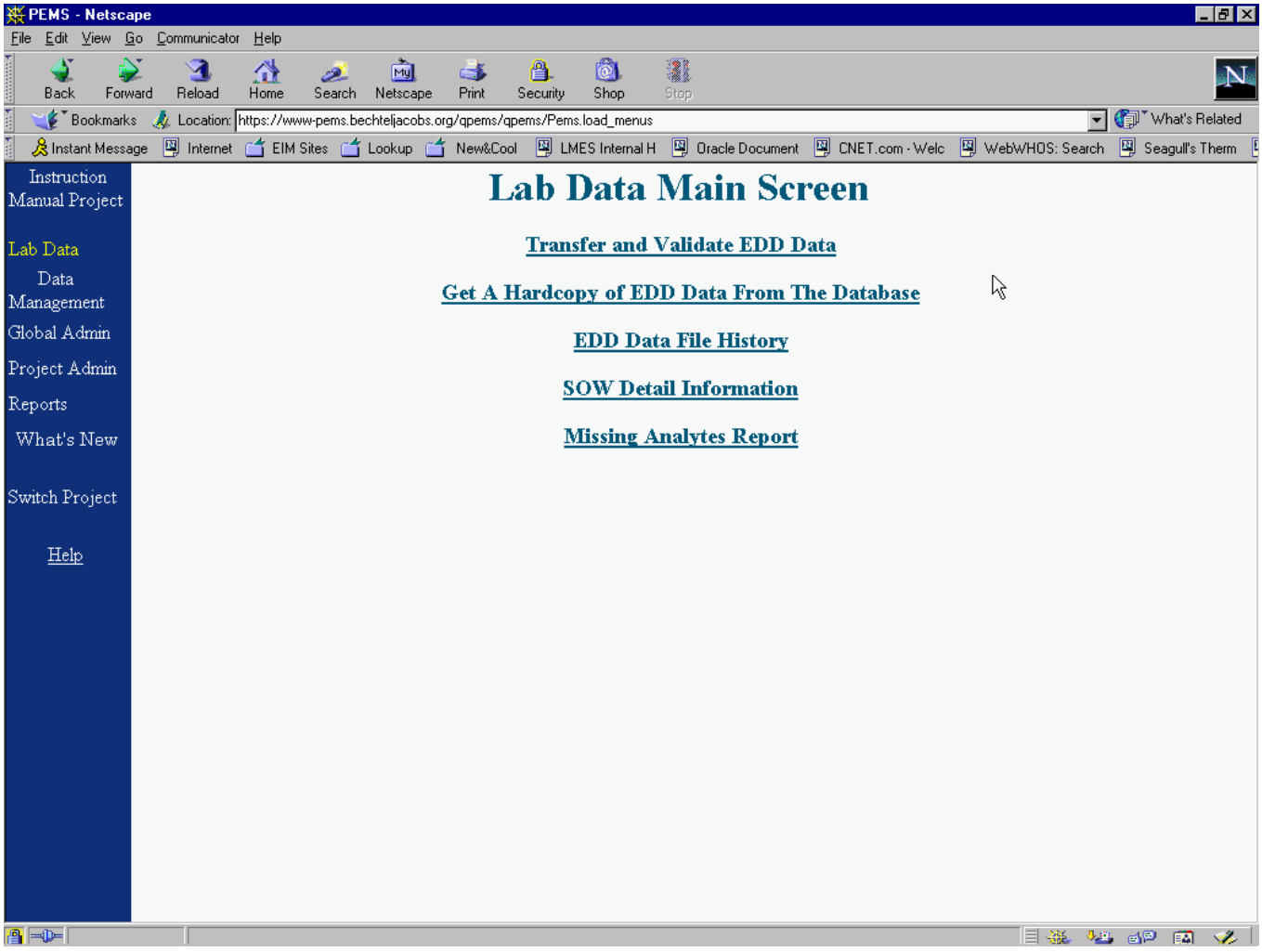


Figure 117

The laboratory can enter the file name in the field or may use the 'Browse' button. When the file name and path are entered, click on the "Load the Data' button as shown in

Figure 118. The laboratories will use the PEMS file naming convention for all files as stated in the AMSED specification. Radiological file names must begin with an "*r*", and end with the first seven characters of the batch id or SDG number. The five radiological file extensions are .res (results), .lcs (laboratory control sample, matrix spike, and matrix spike duplicates), .dup (duplicate), .tir (tentatively identified radionuclides), and .mb (blank file format). Environmental or 'non-rad' files must begin with an "*n*", and end with the first seven characters of the batch or SDG number. The file extensions are .res (results), .lcs (laboratory control sample), .ms (matrix spike, matrix spike duplicate and duplicate), and .tic (tentatively identified compounds).

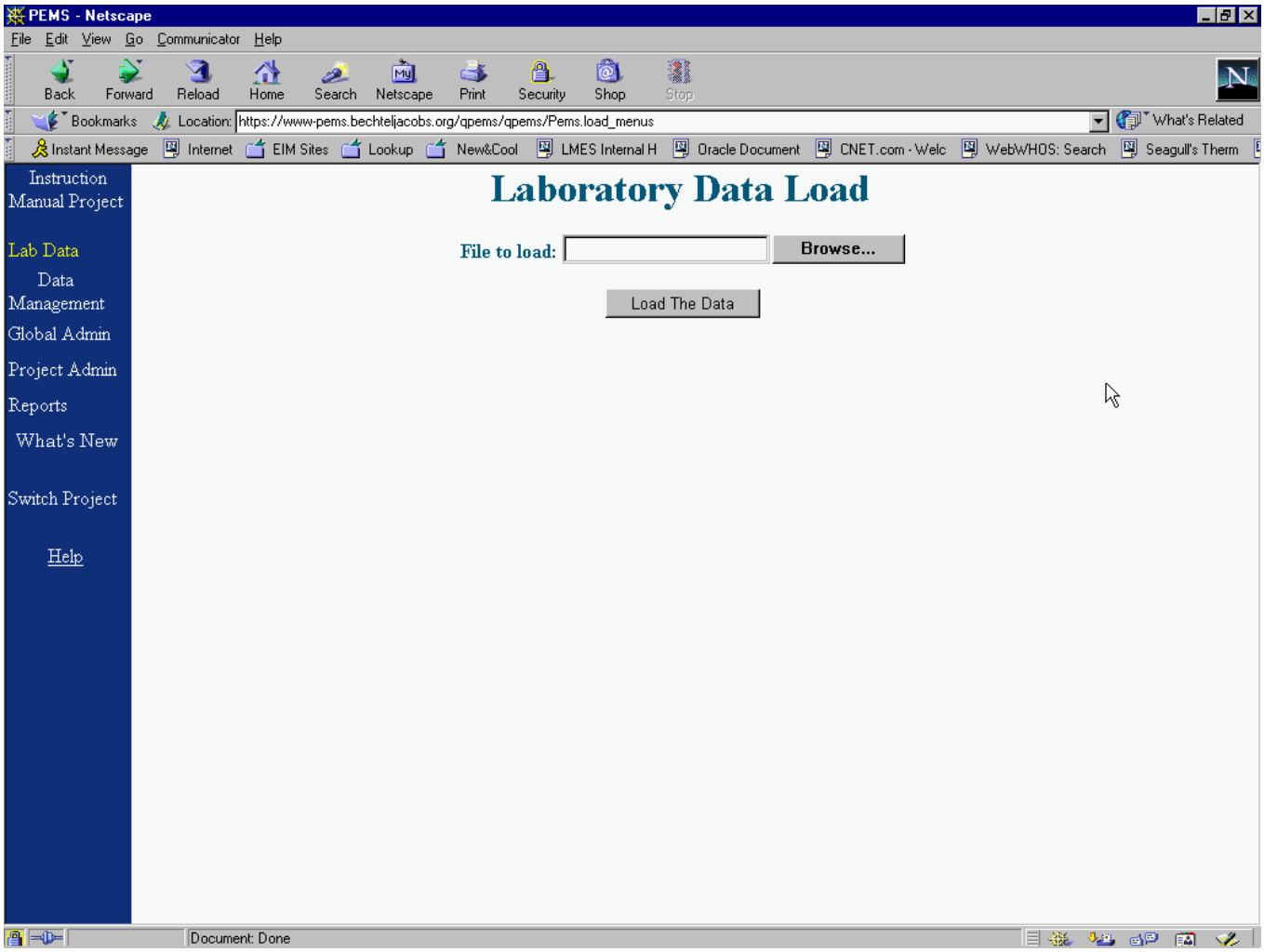


Figure 118

PEMS performs validation checks against the data supplied in the EDD file to ensure that it matches system-specific codes and uses valid values for numeric and date fields. There

are two error categories, Warning and Fatal. A warning message means that contents of a field are not exactly what is required in PEMS but will allow the data to load. A fatal message means that the data will not load until those errors are corrected. The EDD Loader program will let the laboratory user know the error and the row the error occurred as seen in Figure 119. The laboratory may use this feature as many times as it takes for the data to load.

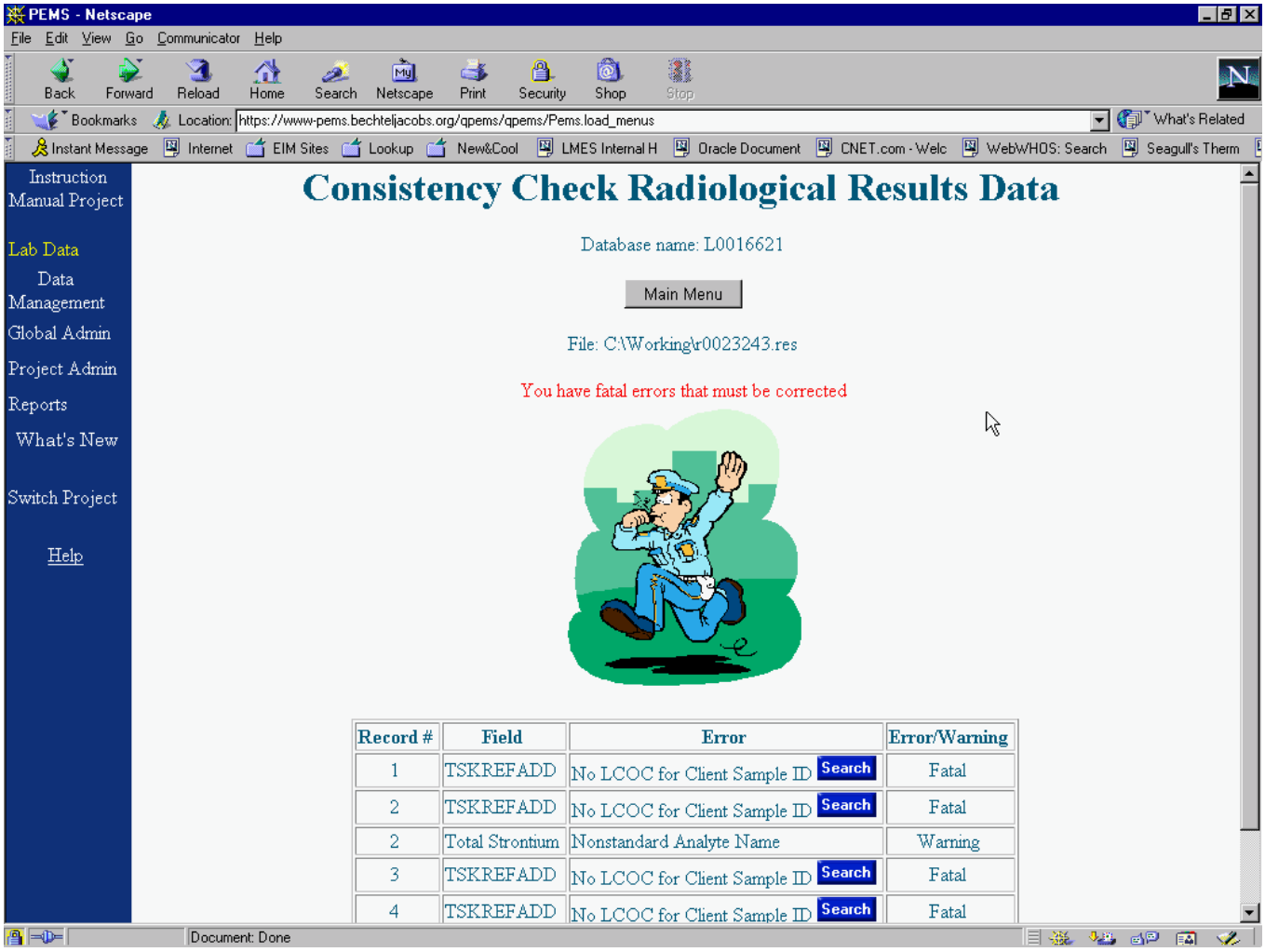


Figure 119

If no fatal errors are encountered during the validation of the data file, a success screen is displayed as shown in Figure 120. The user should click on the 'Save Data To Database' button to save the EDD data to the PEMS database. If this button is not clicked at this point, then the data will not be saved.

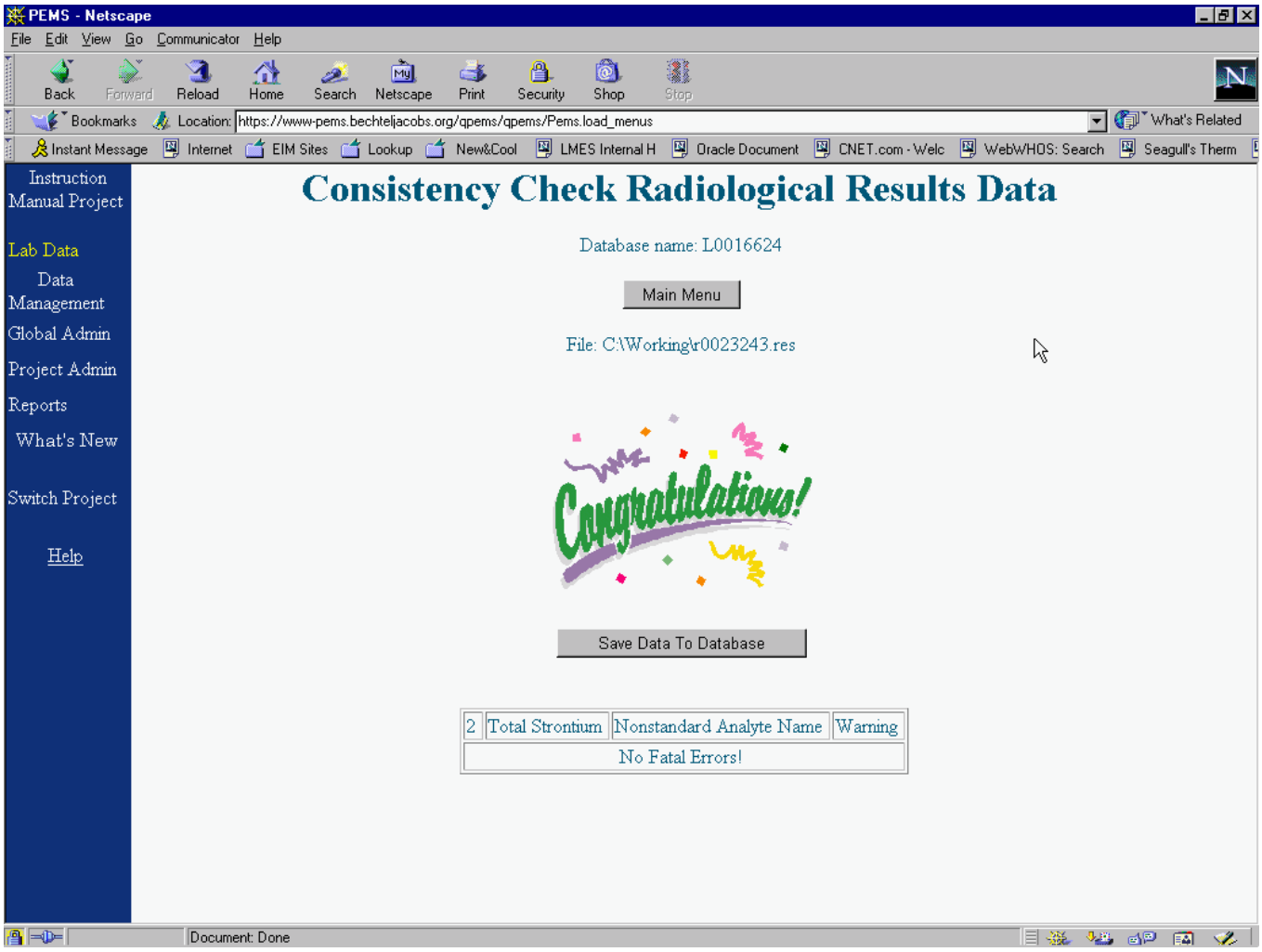


Figure 120

When the data file is loaded into PEMS, a database name will be assigned to that file. The user may click on the “OK” button to leave this screen, or may view the data that was just loaded as shown in Figure 121.

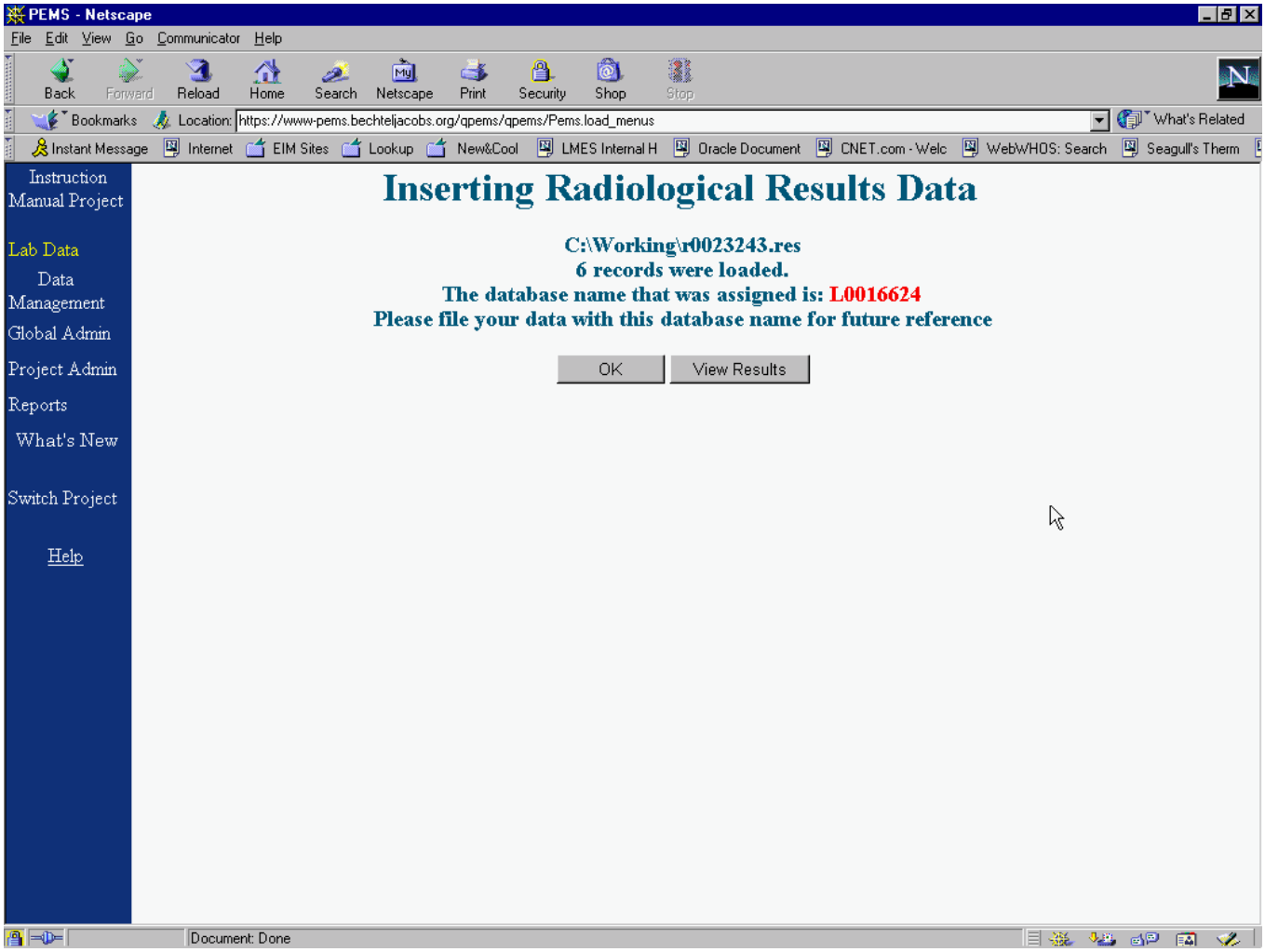


Figure 121

6.2 Get a Hardcopy of EDD Data from the Database

A user can retrieve a copy of a project EDD file from this screen. A date range is provided to assist in locating the desired data file. The user can retrieve data from the current or all projects to which the user has access. See Figure 122. The default date range is two weeks and the value of the date range can be changed.

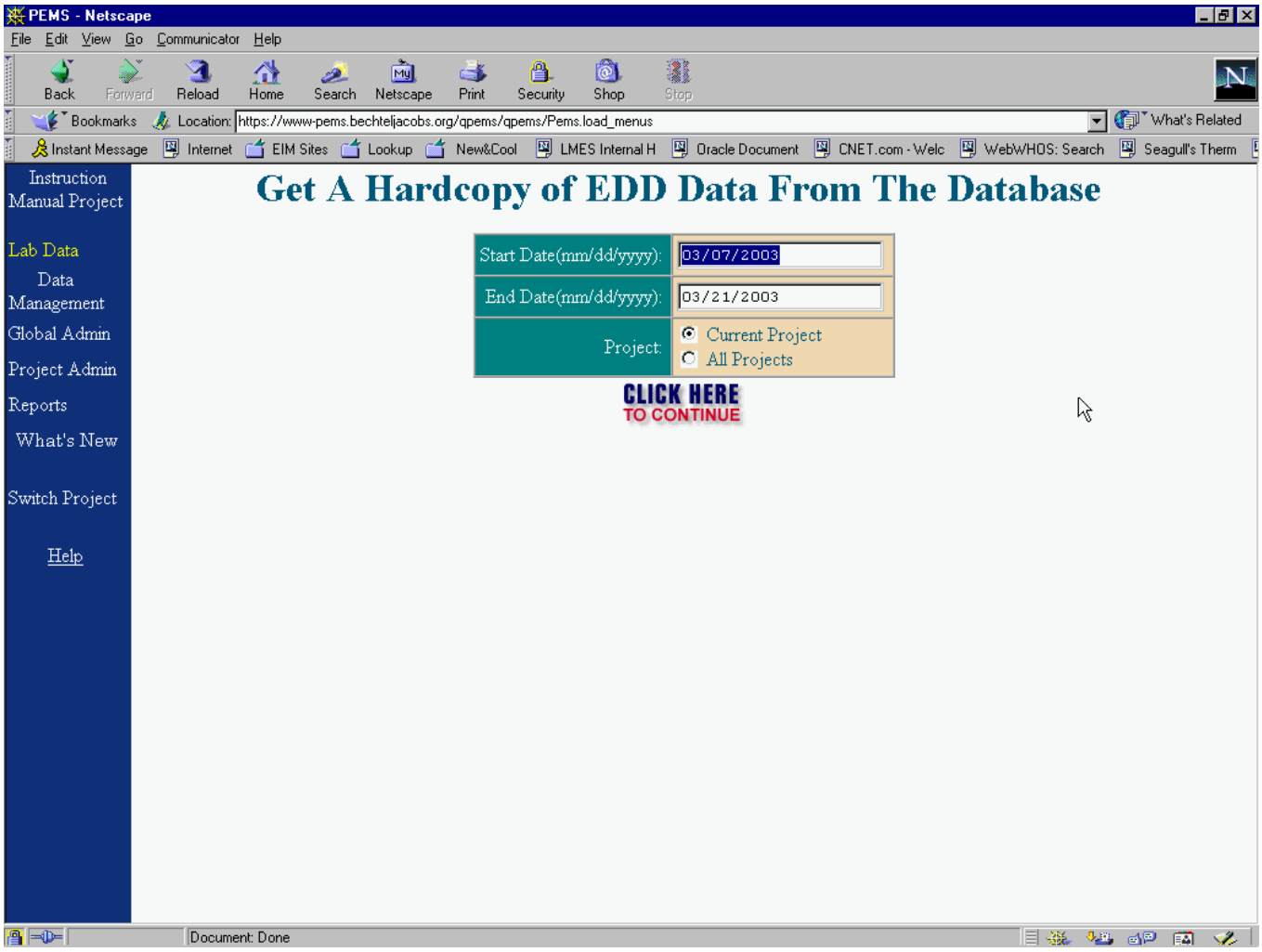


Figure 122

Figure 123 shows a list of files displayed by using the query shown in Figure 122. The files can be downloaded to the user's PC by clicking on the 'Database Name' field. The application will allow the user to save the file on the PC at the user's discretion. To retrieve a file, click on the database name of the file. The PC window will appear asking for the directory in which to save the file. The filename can be changed at the user's discretion at this time. Clicking the "Save' button will save the file to the directory of choice.

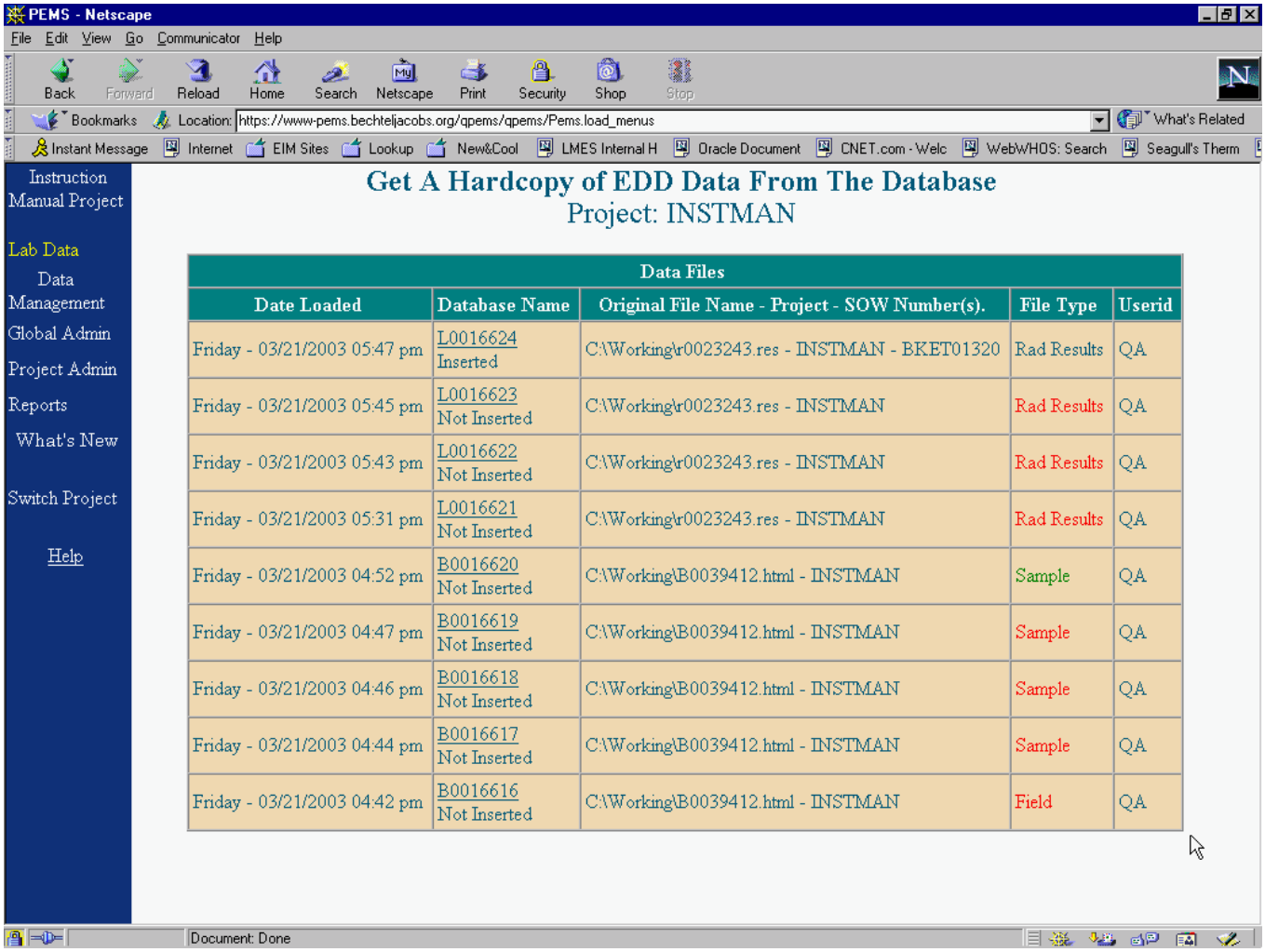


Figure 123

6.3 EDD Data File History

The user can retrieve a file by file name or by DRG number (also called "database name), and see the history of that particular file if multiple versions have been submitted to the database to add or correct file data. The File History prompt is displayed in Figure 124.

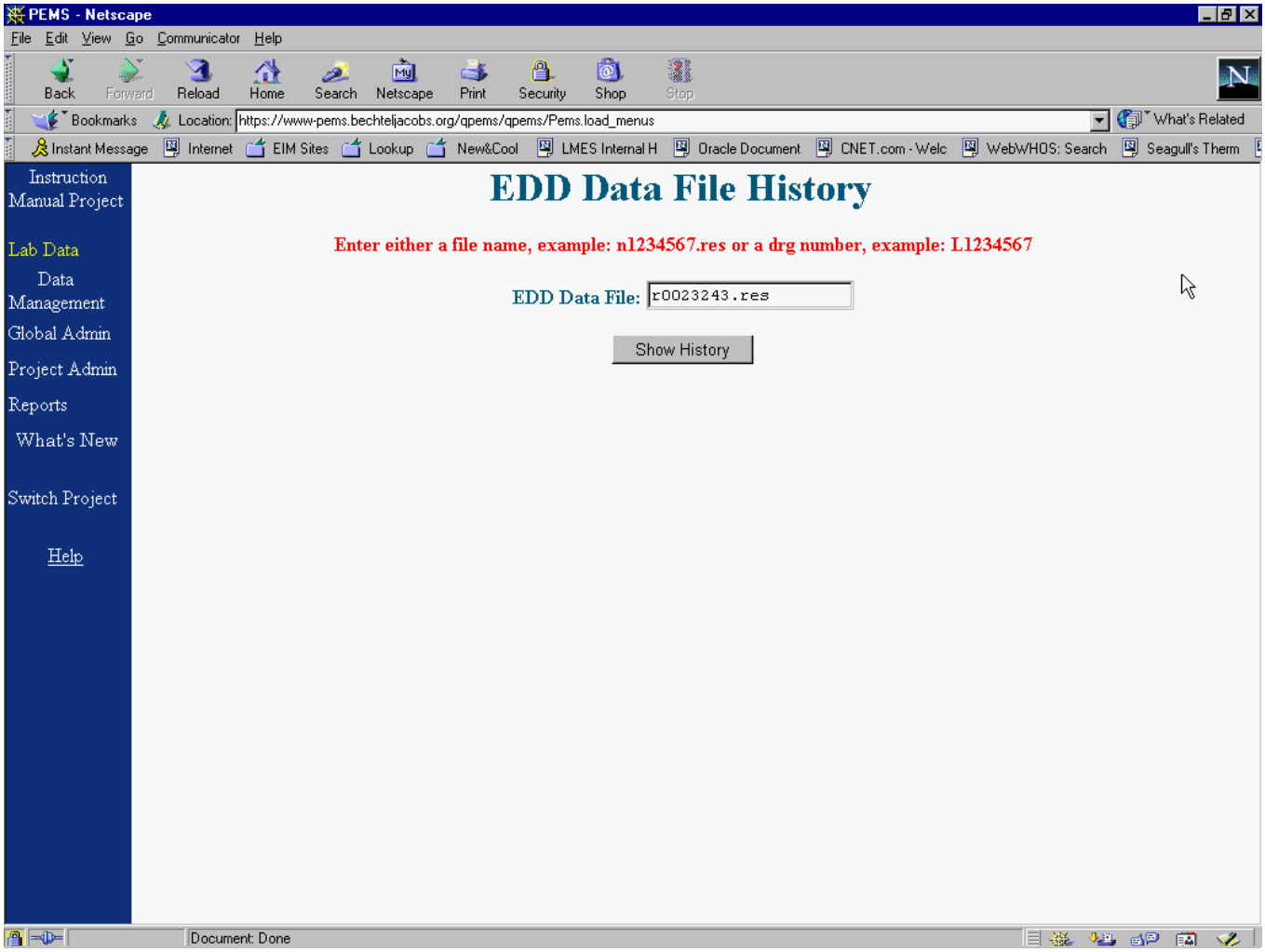


Figure 124

Figure 125 shows the result of an EDD Data File history query. The listing show the DRG number, if the file was inserted into the database and the date as well as other general information about the file.

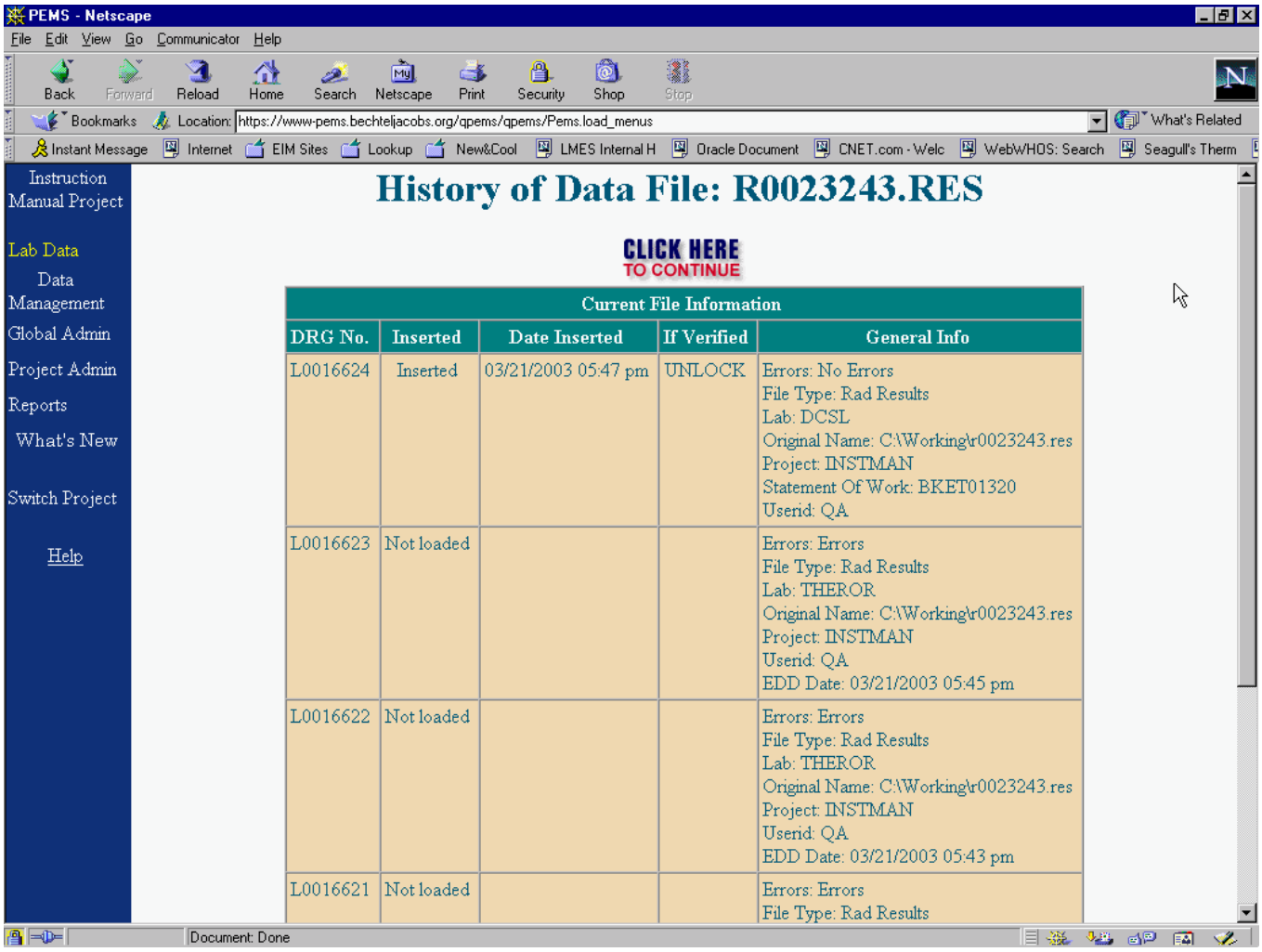


Figure 125

6.4 SOW Detail Information

The SOW Detail report shows a listing of all samples by SOW and their status. It assists the Laboratory in knowing whether or not the project has finalized the LCOC so that the data can be loaded. By clicking on 'SOW Detail Information', the user can review general SOW information by SOW number and sample id. Figure 126 shows an example of this feature.

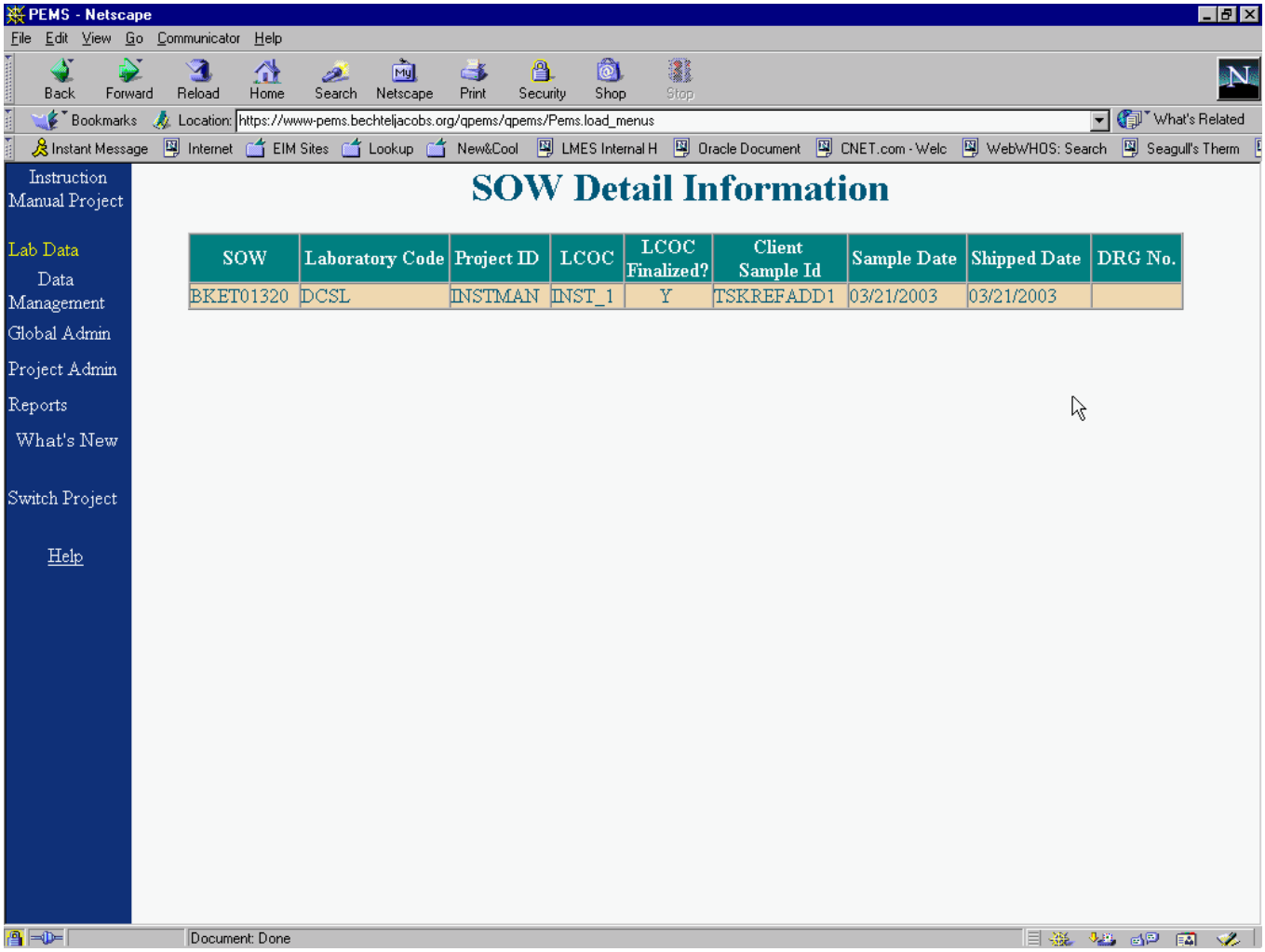


Figure 126

6.5 Missing Analytes Report

The 'Missing Analyte Report' (Figure 127) gives the user an overview of any missing analytes for a particular Parameter Analysis Group for a particular project. This is helpful for large projects with samples having several methods and multiple analytes being reported. This report is limited to those SOWs in Tracker.

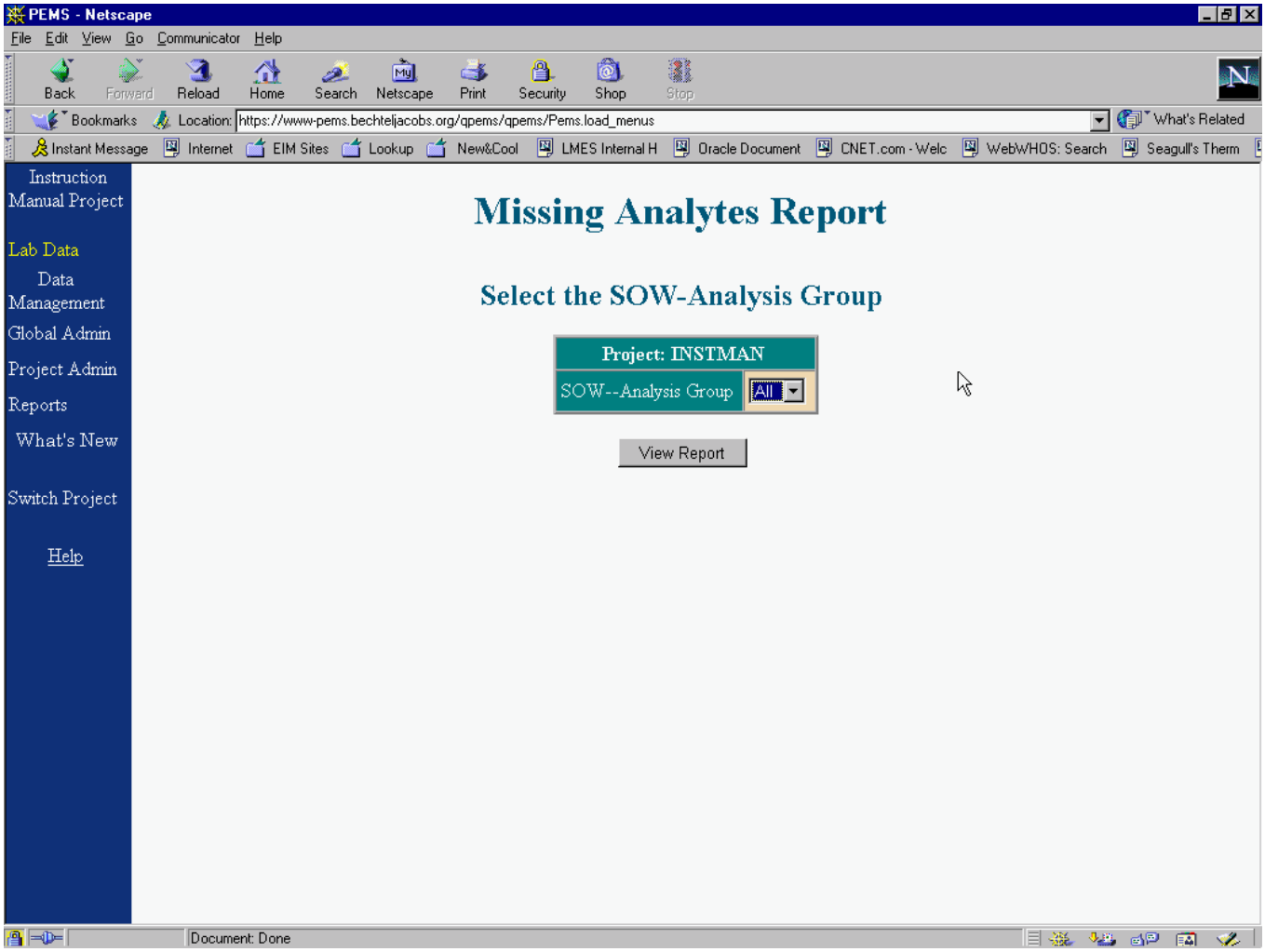


Figure 127

As a safeguard, PEMS gives a unique database name (DRG Number) each time an attempt is made to load the file, as shown in Figure 128. Resubmission is triggered when a user loads a file name that matches an already loaded file name. For example, if 'r1234567.res' is loaded successfully and then the same name is used again, the resubmission warning is triggered. The DRG Number it is used to identify the data that must be deleted. Therefore, if new data is to be added to a data file, the new file must contain all of the previous data plus the data to be added (Figure 129).

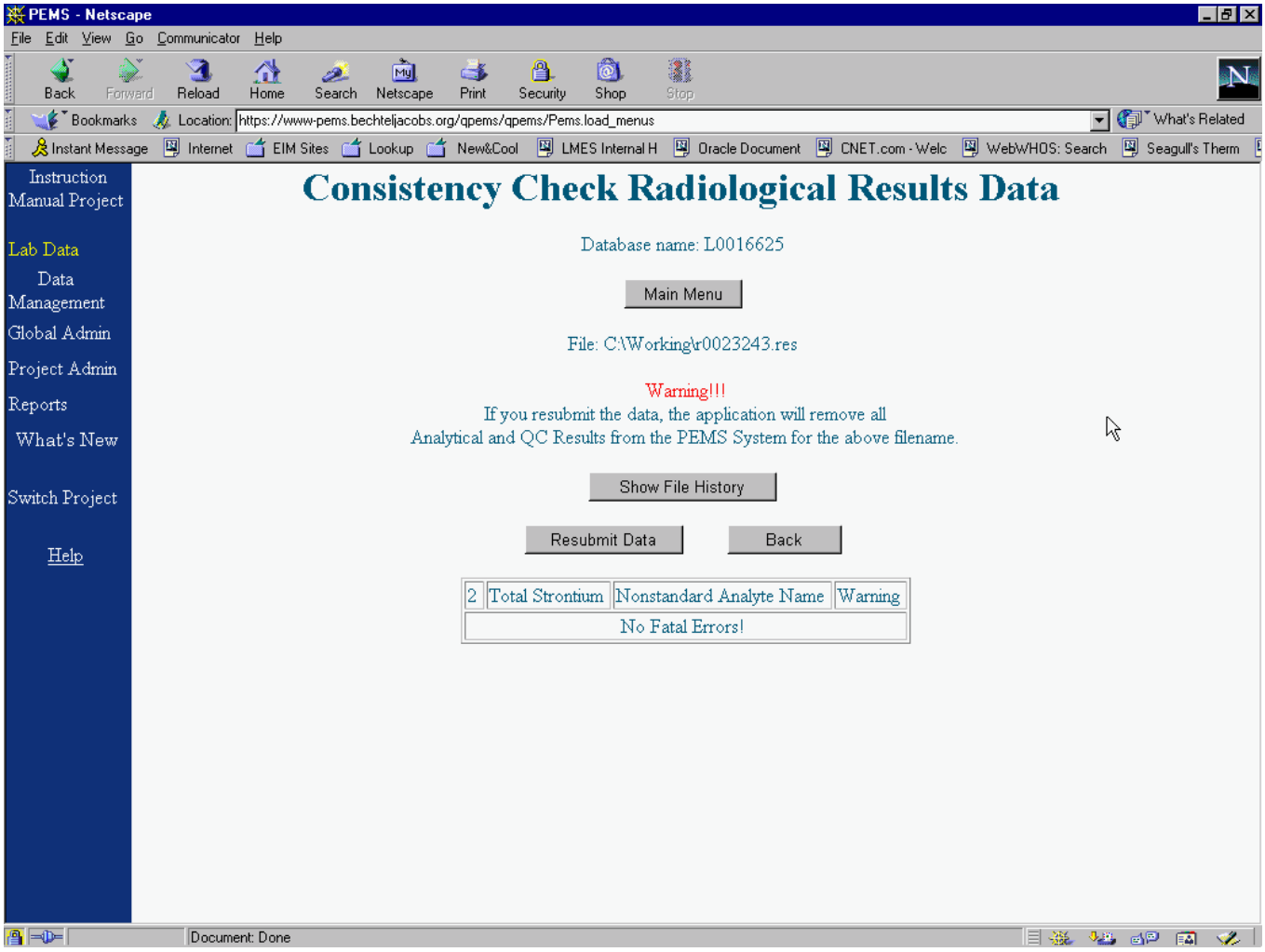


Figure 128

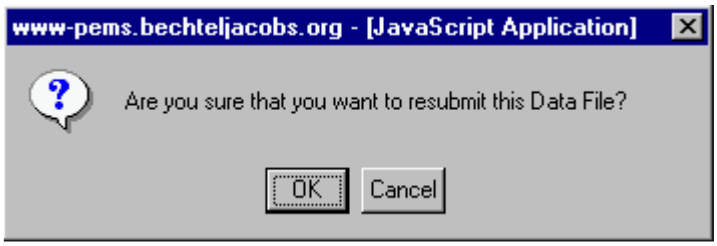

www-pems.bechtelJacobs.org - [JavaScript Application]
Are you sure that you want to resubmit this Data File?
OK
Cancel

Figure 129

7.0 Analytical Data

7.1 Validation Qualifier Assignment

If the analytical data is to be validated, the following applications may be used to assign validation qualifiers and reason codes that explain why the validation qualifier was used. Lab qualifiers that match existing validation qualifiers can be copied to the validation qualifier field. Sample results can be edited using the 'Edit Sample Result' button. The user can also copy and edit the qualifiers and edit sample results after resubmission. The following figures illustrate these features. Click on the Data Management menu button, then 'Validation Qualifier Assignment' (Figure 130) under "Analytical Data."

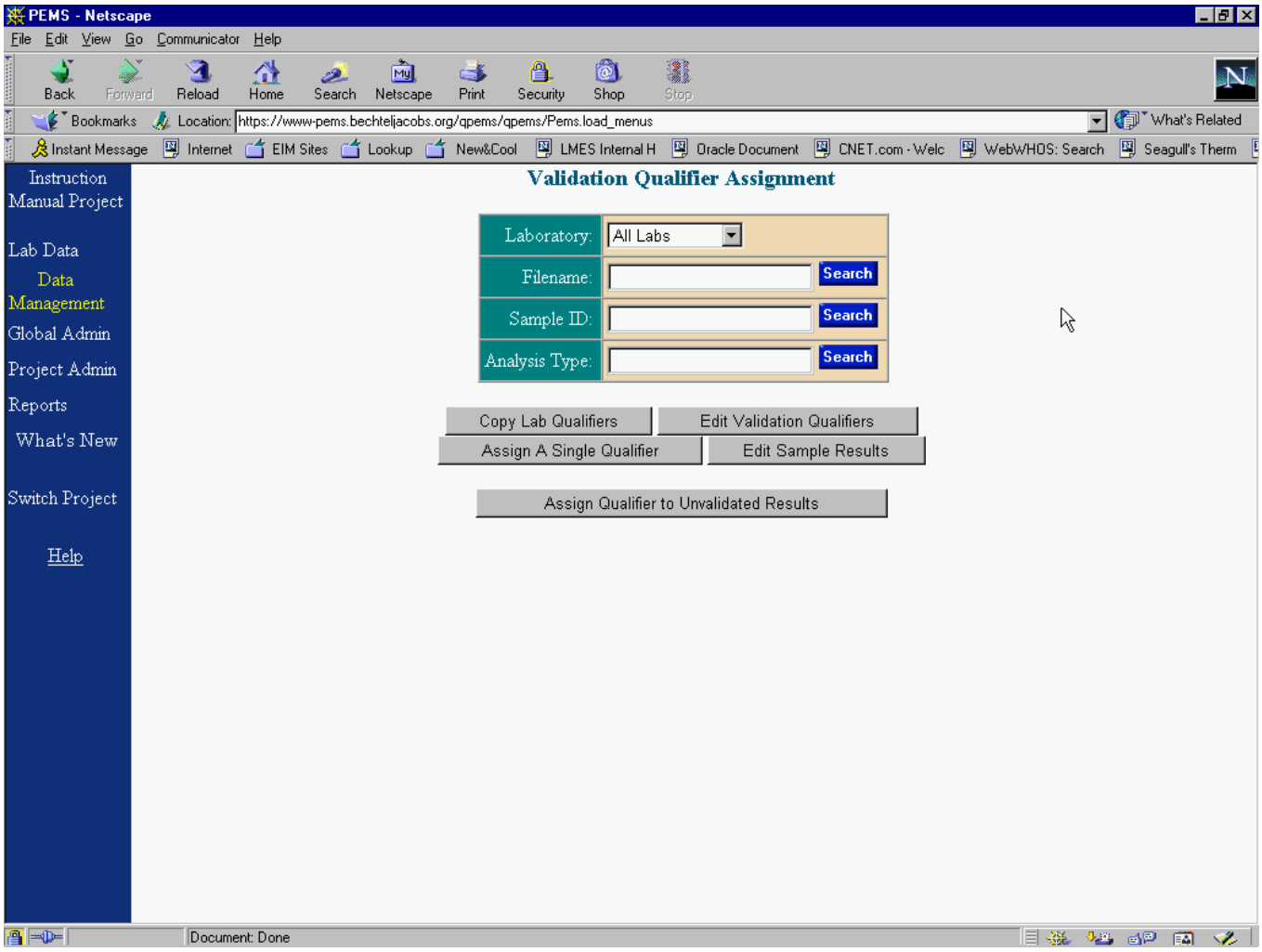


Figure 130

Clicking on the ‘Copy Lab Qualifiers’ button as shown in Figure 131, will copy the lab qualifier assigned by the laboratory in the AMSED EDD to the validation qualifier field. Laboratory results that are not reported with a result qualifier will be assigned the “=” qualifier if the “Copy” function is used.

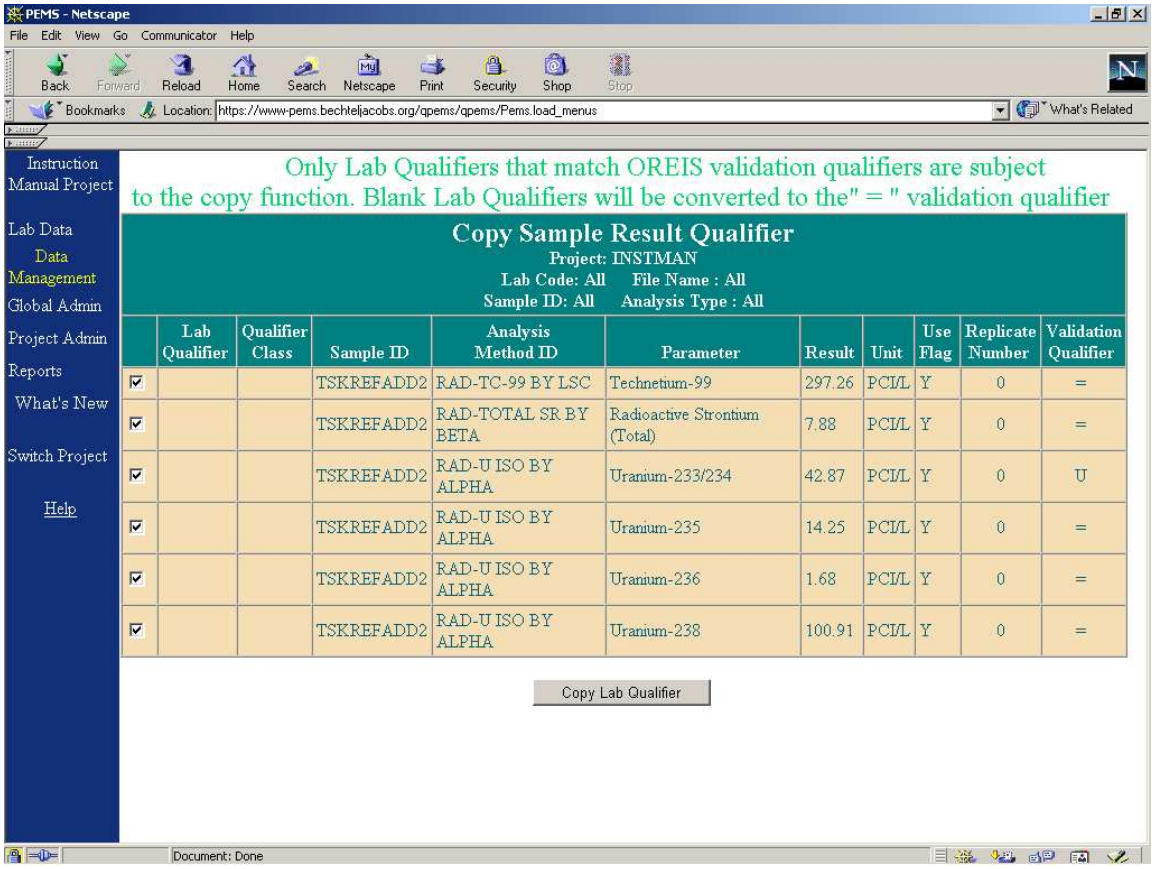


Figure 131

The ‘Assign Valid Qualifier and Reason Code’ screen allows the user to assign a single validation qualifier to all selected analytical results and associated reason codes if required. Valid validation qualifiers and reason codes are available in a drop down menu. Click on the appropriate qualifier and reason and then the “ok” button to apply them as shown in Figure 132. It should be noted that this function will overwrite any qualifier that may have already been assigned.

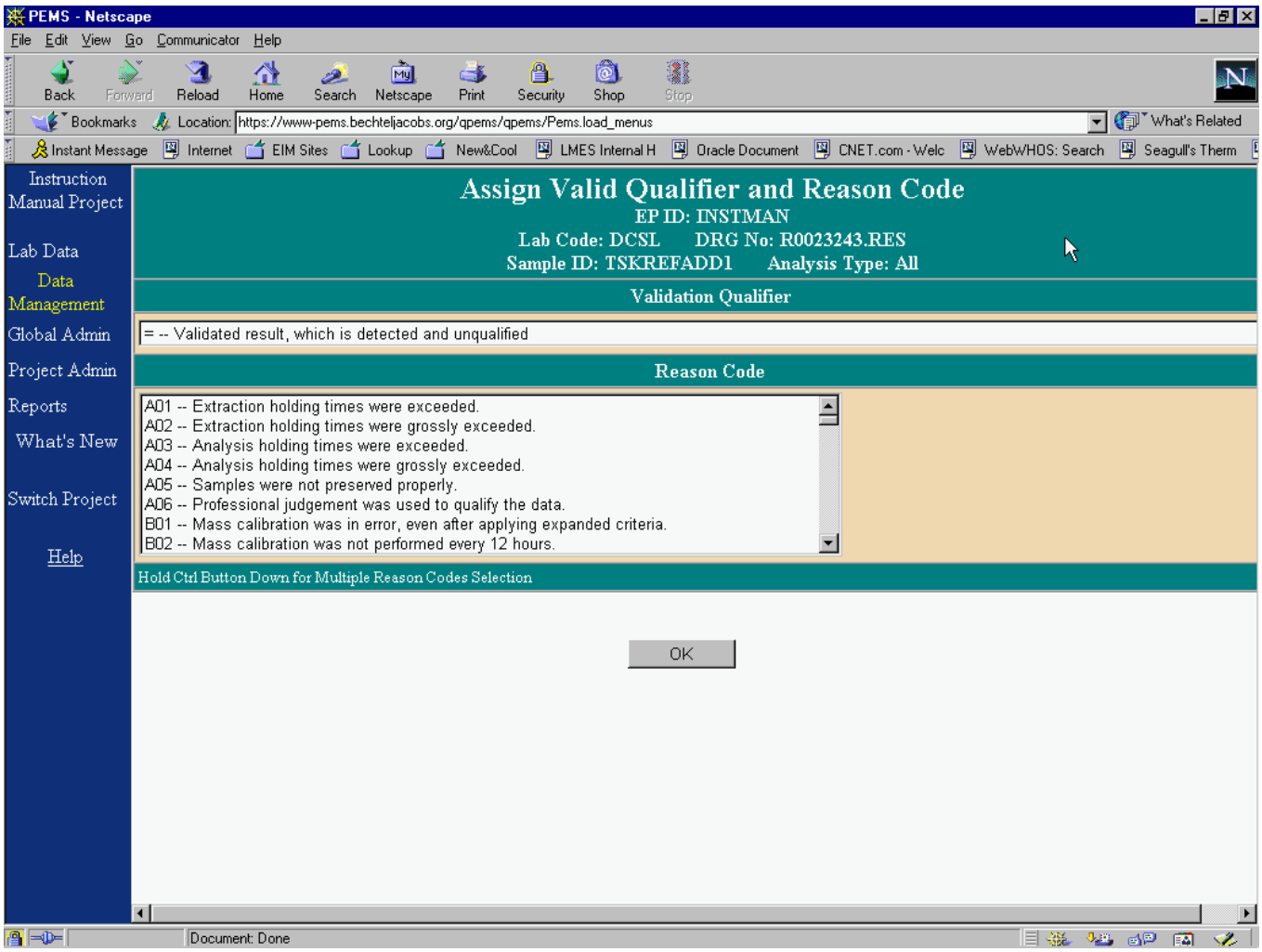


Figure 132

The ‘Edit Validation Qualifiers’ screen as shown in Figure 133, allows validation qualifiers and reason codes to be applied or edited to individual analyte results. This screen allows the setting of the Use Flag, which indicates whether or not the result will be transferred to OREIS.

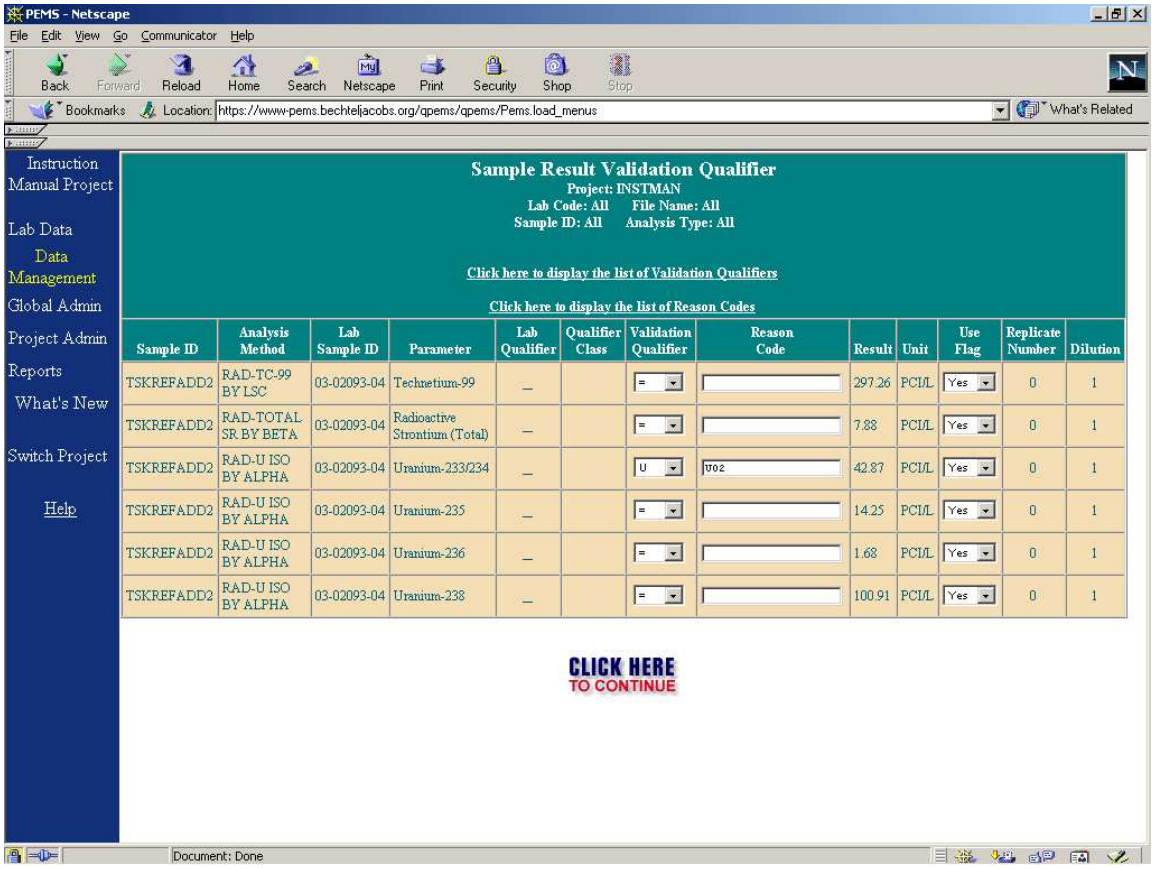


Figure 133

A separate browser window that contains the valid validation qualifiers is launched from the 'Edit Validation Qualifiers' screen as shown in Figure 134. If the data will go to OREIS, but is not validated, the qualifier of either "XV" or "XZ" is entered before submitting the data to OREIS.

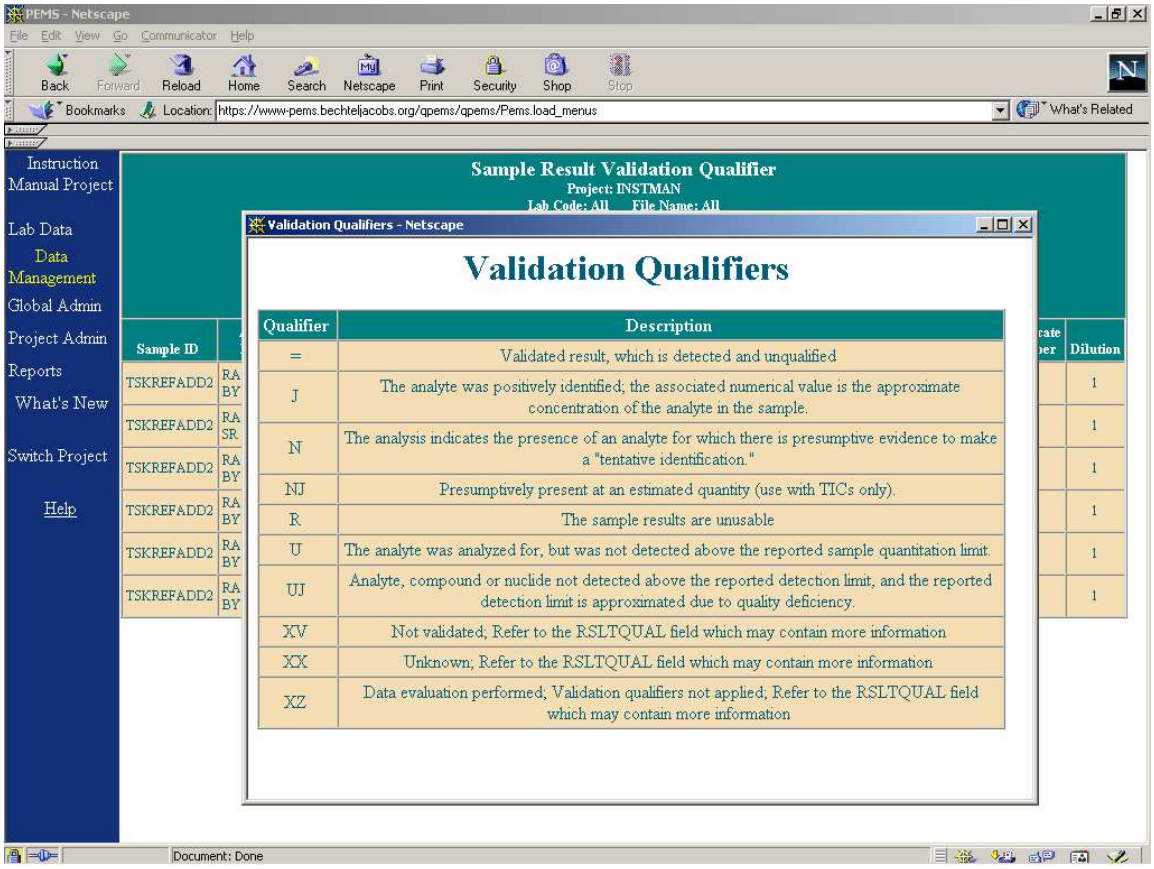


Figure 134

Figure 135 shows separate browser window that contains the list of valid reason codes that is launched from the ‘Edit Validation Qualifiers’ screen.

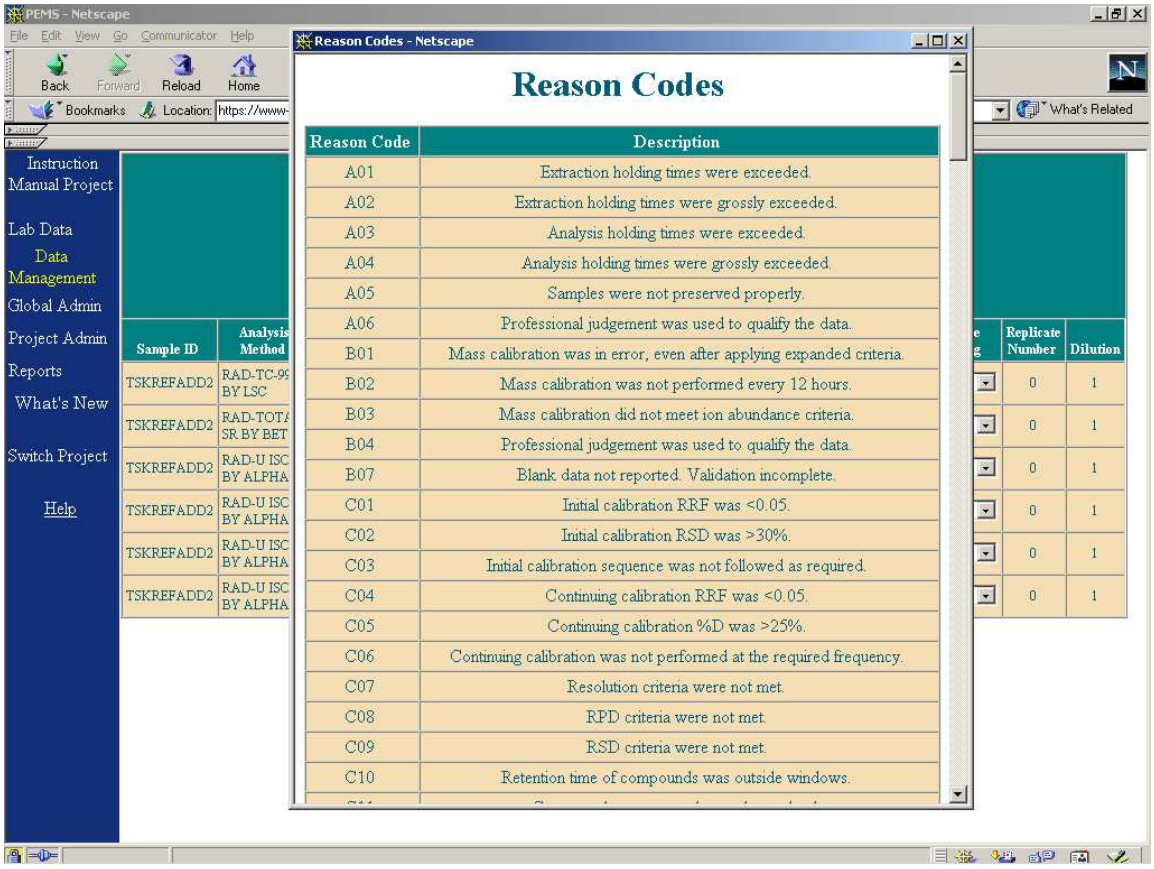


Figure 135

As shown in Figure 136, if an invalid reason code is entered, the user will be prompted to provide a valid code.

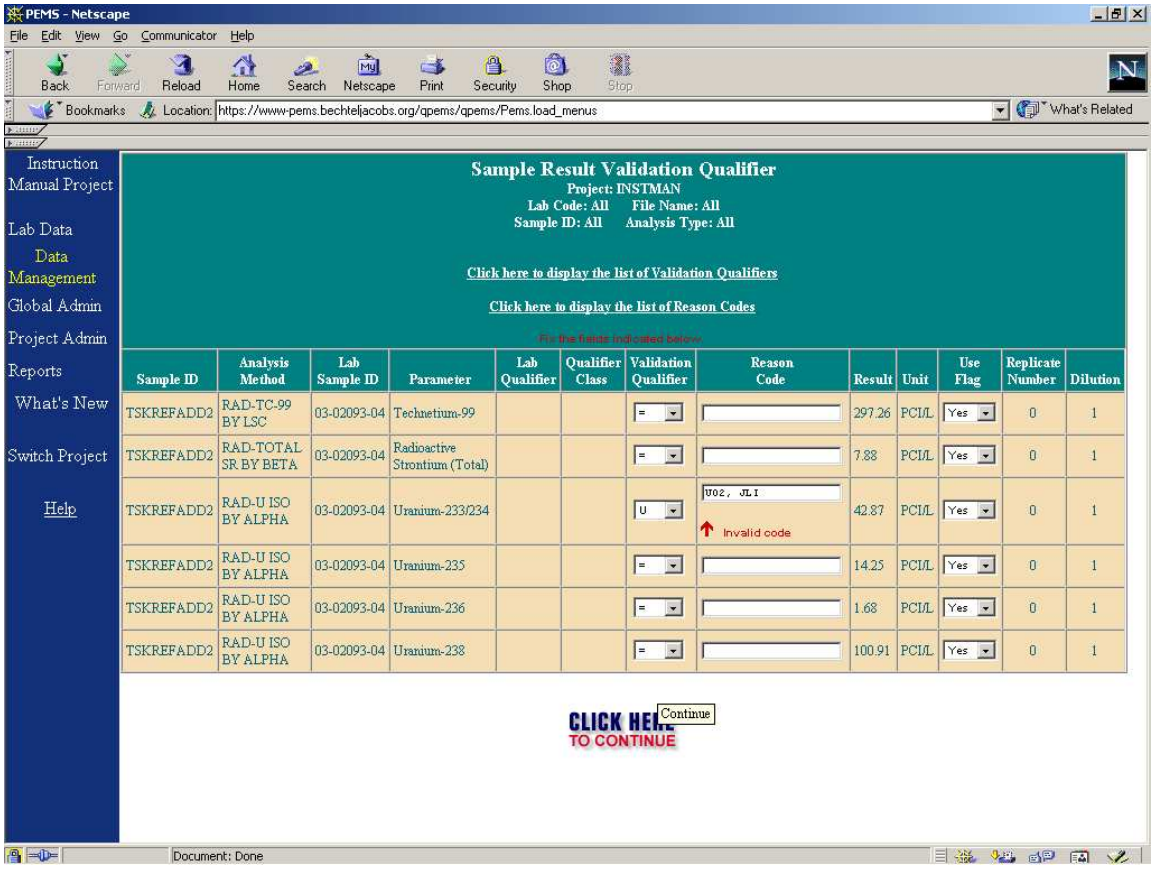


Figure 136

From the ‘Edit Validation Qualifier’ screen, laboratory qualifiers can be changed, added or deleted by clicking on the lab qualifier field for a sample result (Figure 137). The valid laboratory qualifiers for the selected analysis class (i.e., radiological, organic, wet chemical, physical, etc.), and the numeric result and result units will be shown and can be updated using this screen.

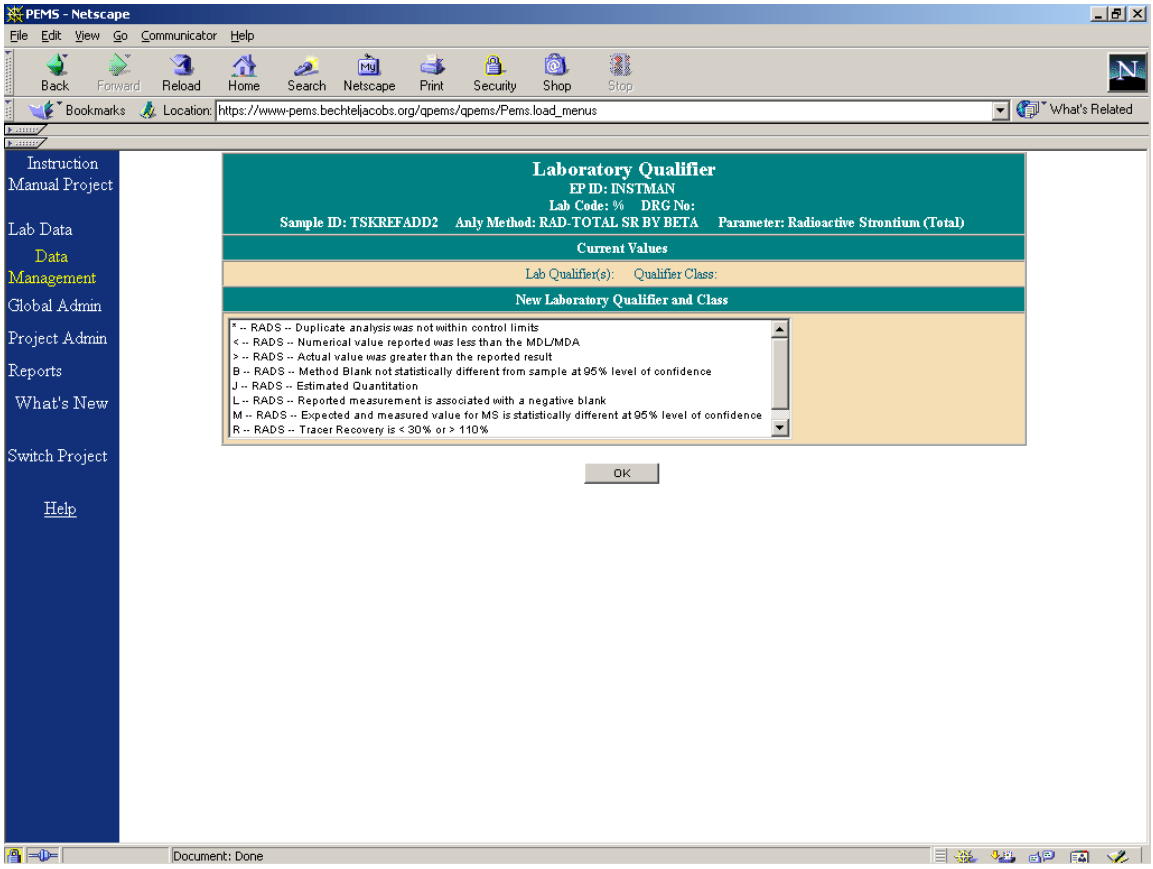


Figure 137

From the ‘Validation Qualifier Assignment’ screen and selecting “Edit Sample Results”, information may be updated and comments may be added by clicking on the record to be updated (Figure 138).

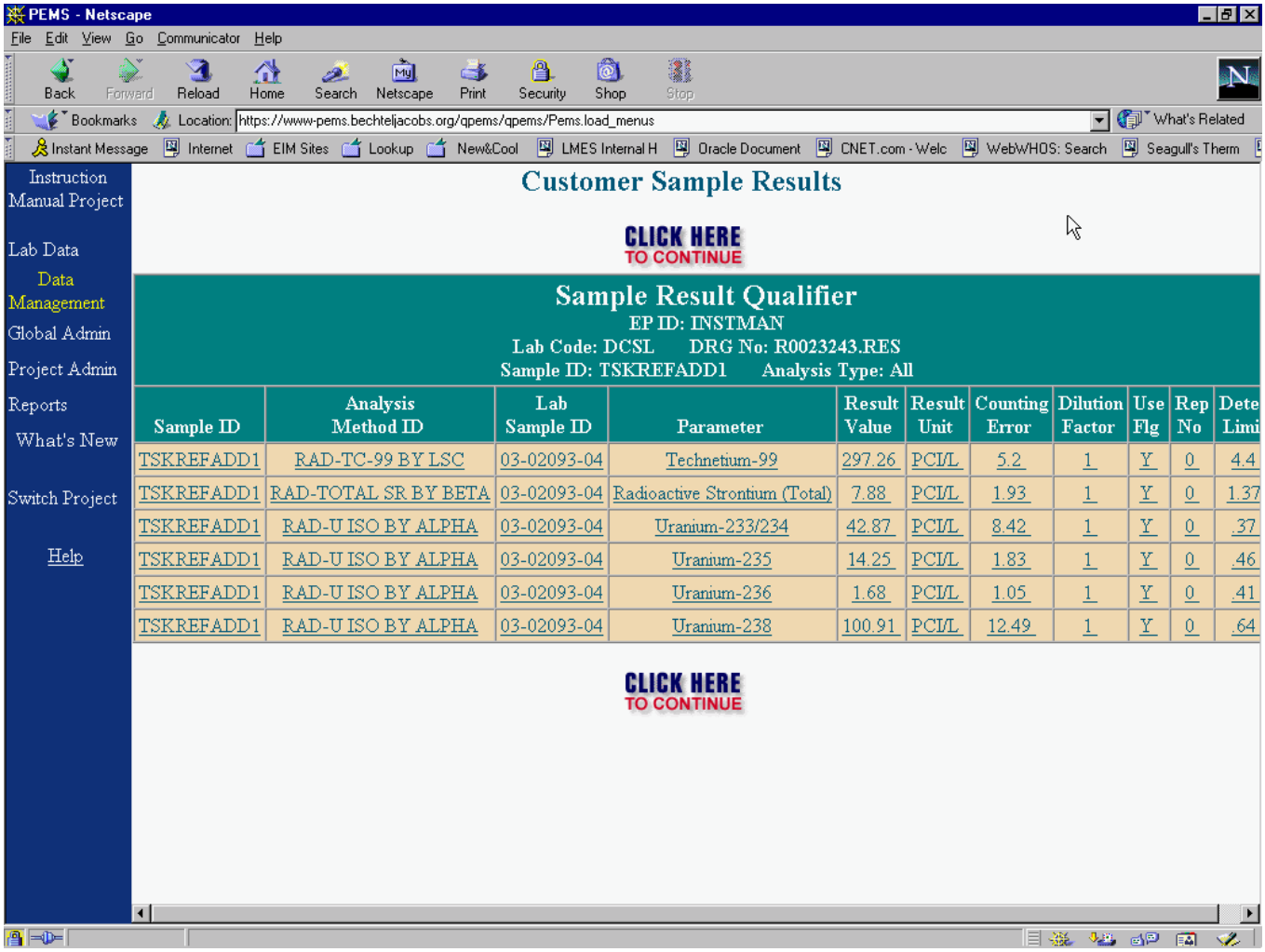


Figure 138

7.2 Edit Sample Results

The ‘Edit Sample Results’ screen, Figure 139, allows the user to make general and revision comments. The following fields can be updated or changed via this screen: Result value, result unit, analysis type, counting error, dilution factor, and use flag.

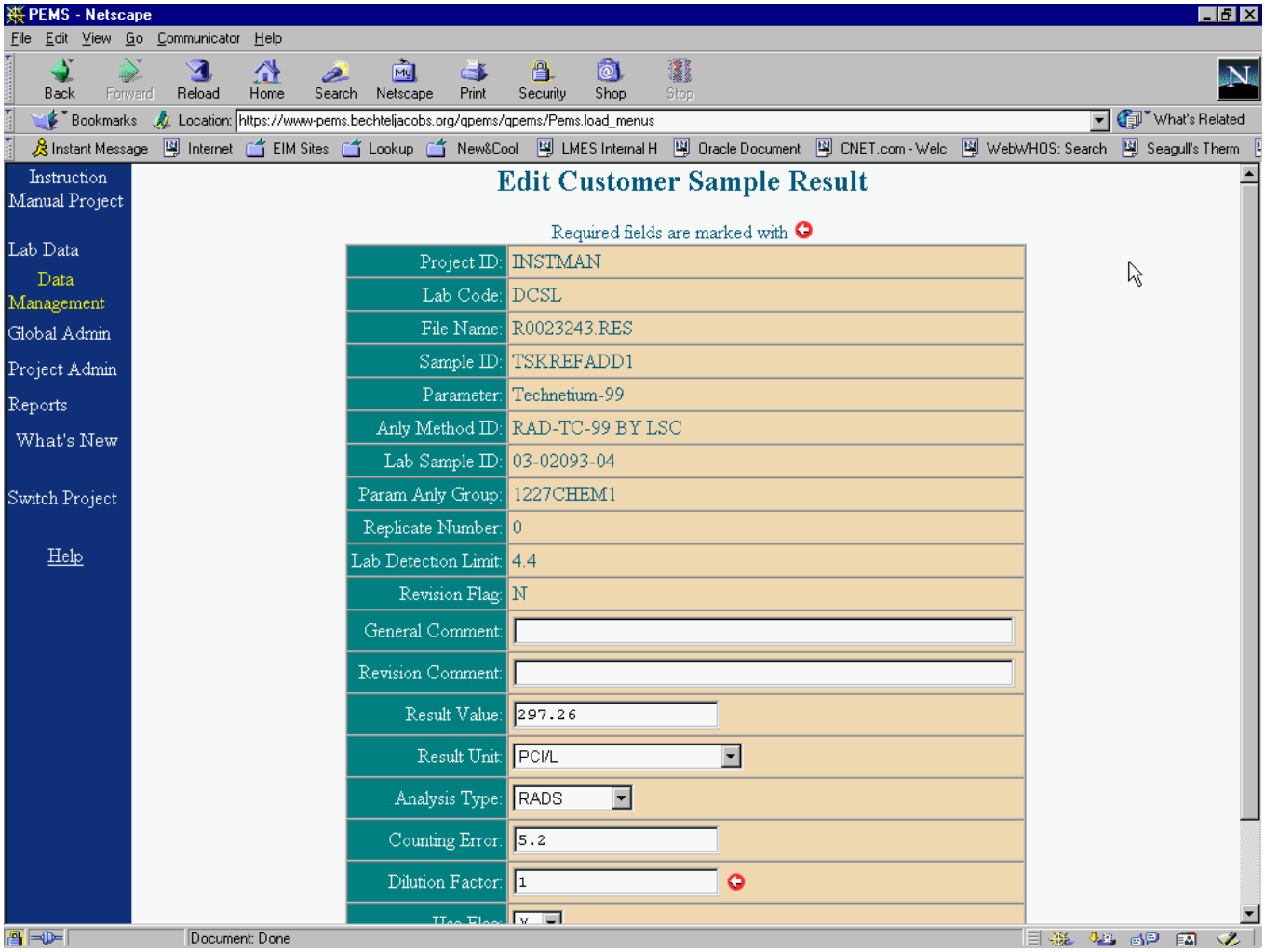


Figure 139

7.3 Apply Data Assessment Codes

The Apply Data Assessment Codes function, as seen in Figure 140, applies data assessment codes and reason codes to regular analytical results and updates the use flag for these results. The function prompts the user for the name of the file containing the result record identifier, the data assessment code, the reason codes (if any) and the use flag. This file is in a specified format, which can be reviewed on the PEMS Home Page.

On clicking the Continue icon, the file is examined for invalid record identifiers, duplicated record identifiers, invalid data assessment codes, invalid reason codes and other invalid conditions.

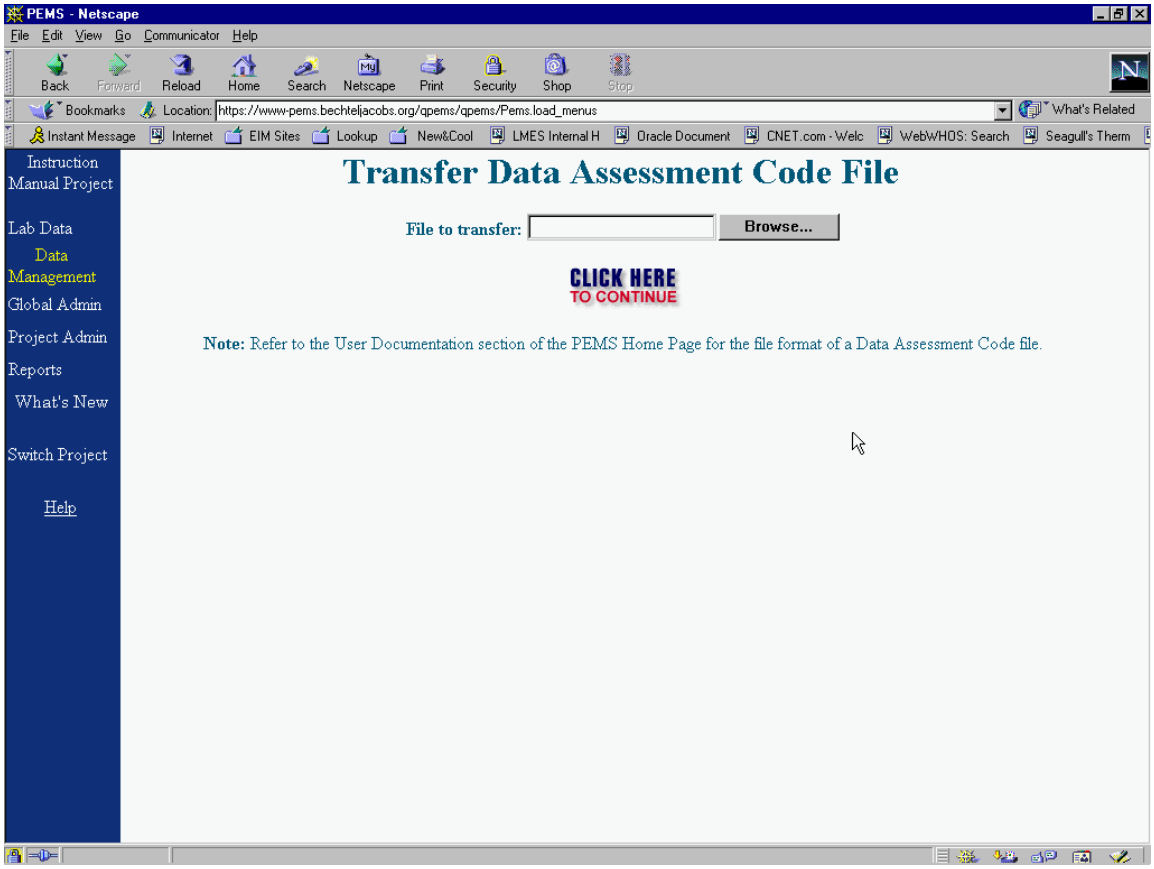


Figure 140

If any errors are detected in the validation process, they will be displayed to the user as shown in Figure 141. This screen lists the record number in the data file that contained the error, the value of the field in error and a descriptive message of the problem encountered. These errors must be resolved by correcting the submitted file. Clicking on the 'Return to Main Screen' button will return the user to the file prompt (Figure 140).

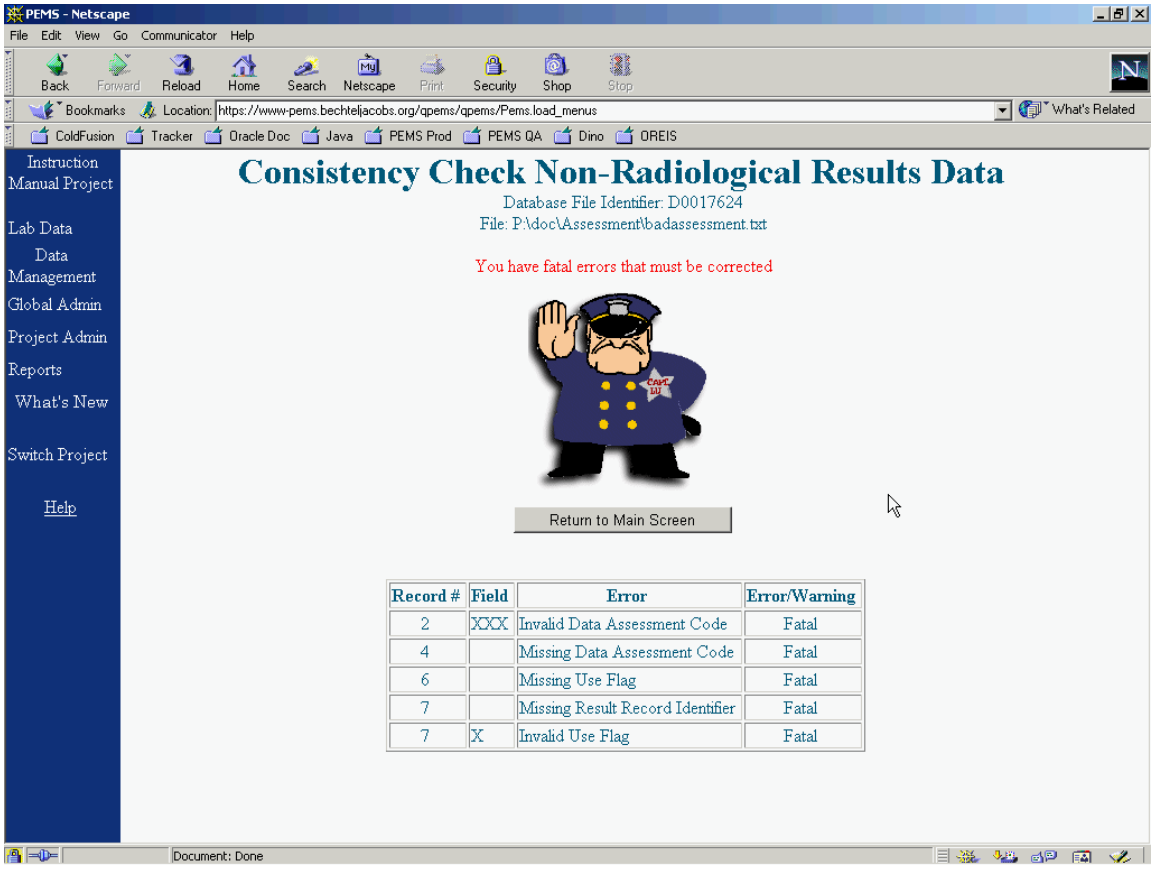


Figure 141

If there are no errors in the file, a screen with a successful message (See Figure 142) is displayed. Clicking on the 'Apply Codes to Results' button will apply the values listed in the data assessment file to the analytical result records. If a validation qualifier is not already assigned to these records, the validation qualifier will be updated to 'DA'.

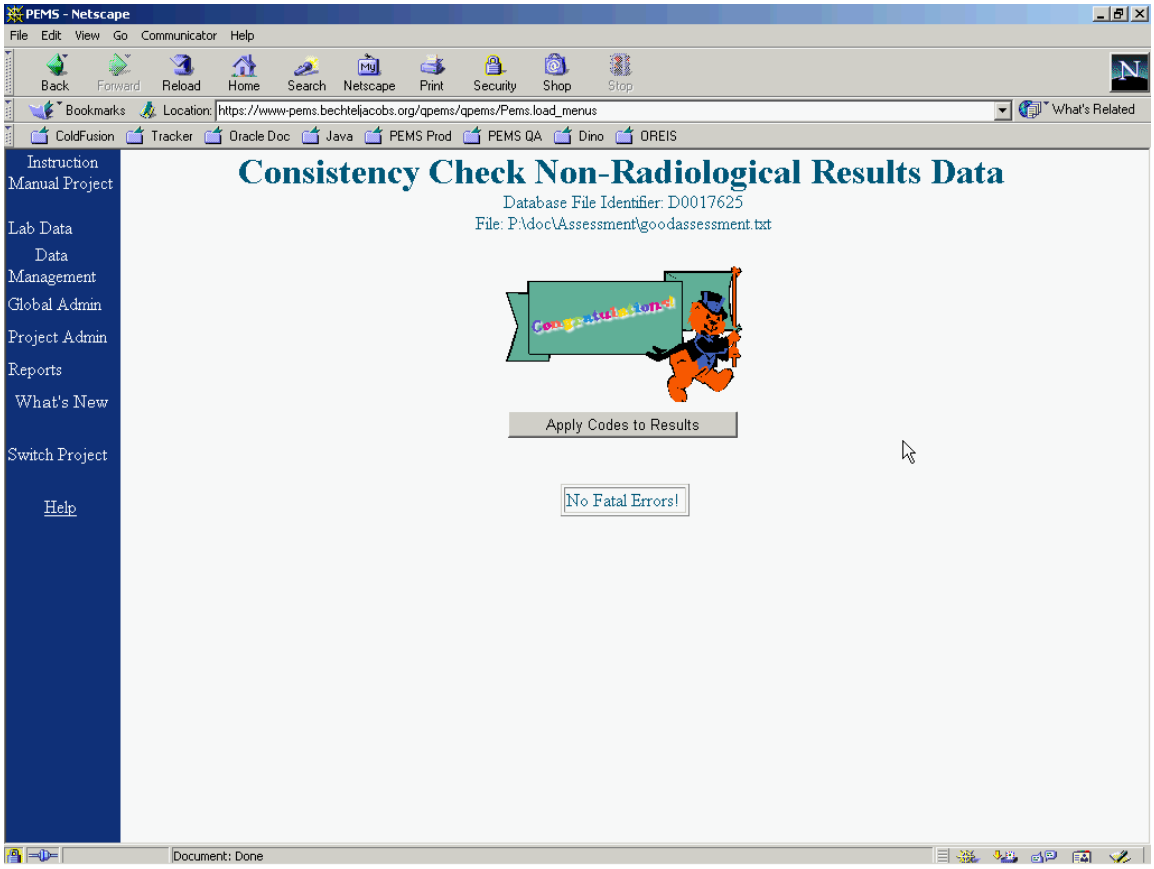


Figure 142

After the analytical result records have been updated, a screen will be displayed that reports the number of records affected by the update and a unique file identifier for the data assessment file (See Figure 143). Clicking on the 'Ok' button will return the user to Data Management menu.

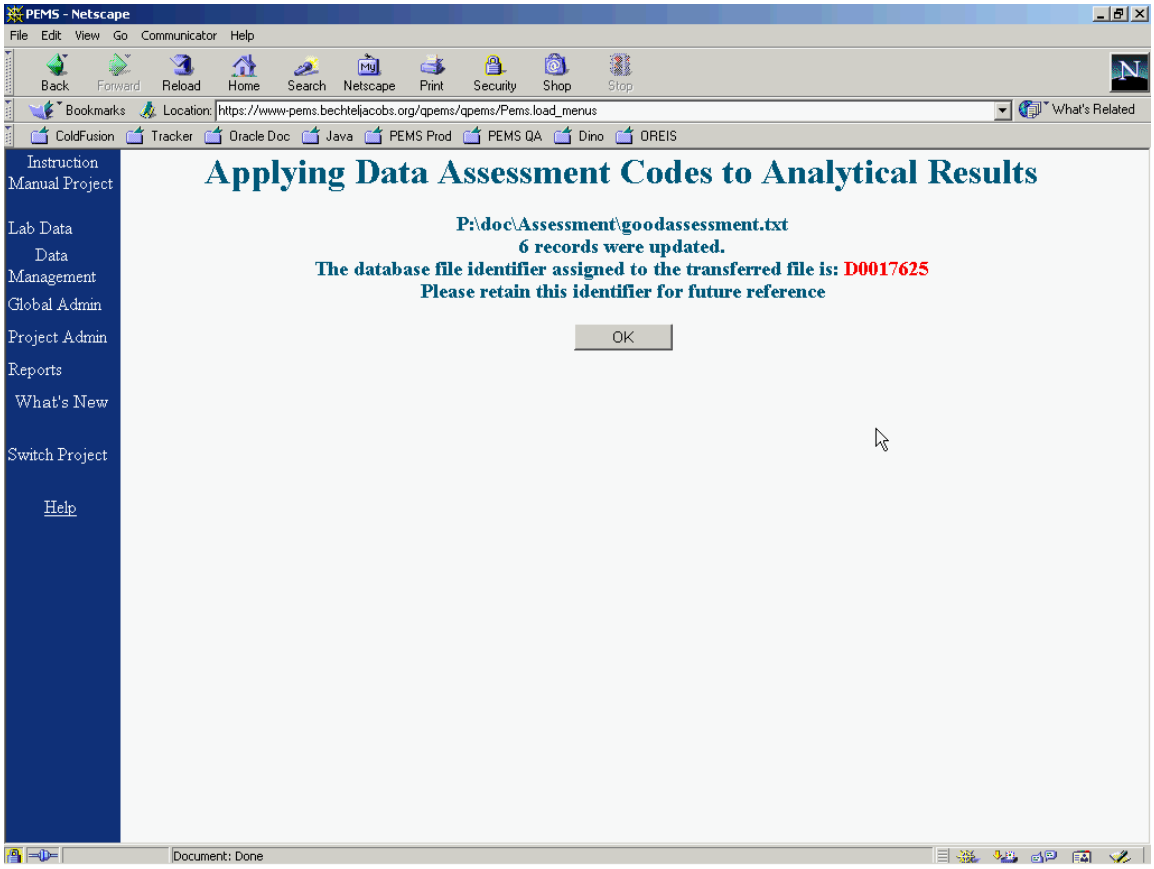


Figure 143

Data Assessment codes and their associated reason codes can be viewed on the Edit Validation Qualifiers screen (see Figure 133). They can also be downloaded through the Download Sample Measurement Report.

7.4 Result/DRG Verification

The Result/DRG verification function as seen in Figure 144, allows Data Receipt Groups (DRG) from the selected laboratory to be verified or unverified. Verifying a DRG prevents resubmission of the file (Figure 145). Un-verifying a DRG will allow resubmission of the file.

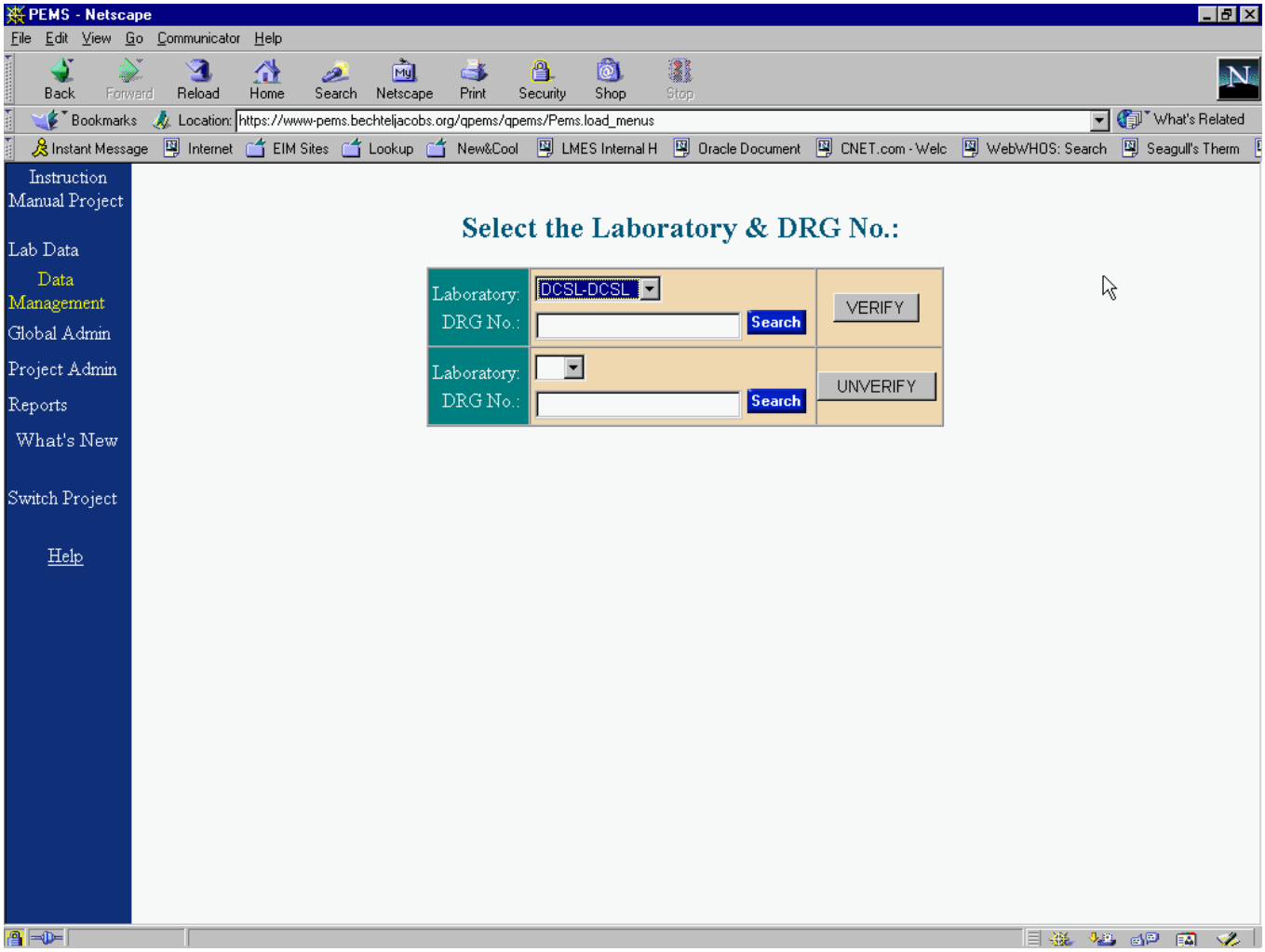

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
Select the Laboratory & DRG No.:
Laboratory:
DCSL-DCSL
DRG No.:
Search
VERIFY
Laboratory:
DRG No.:
Search
UNVERIFY

Figure 144

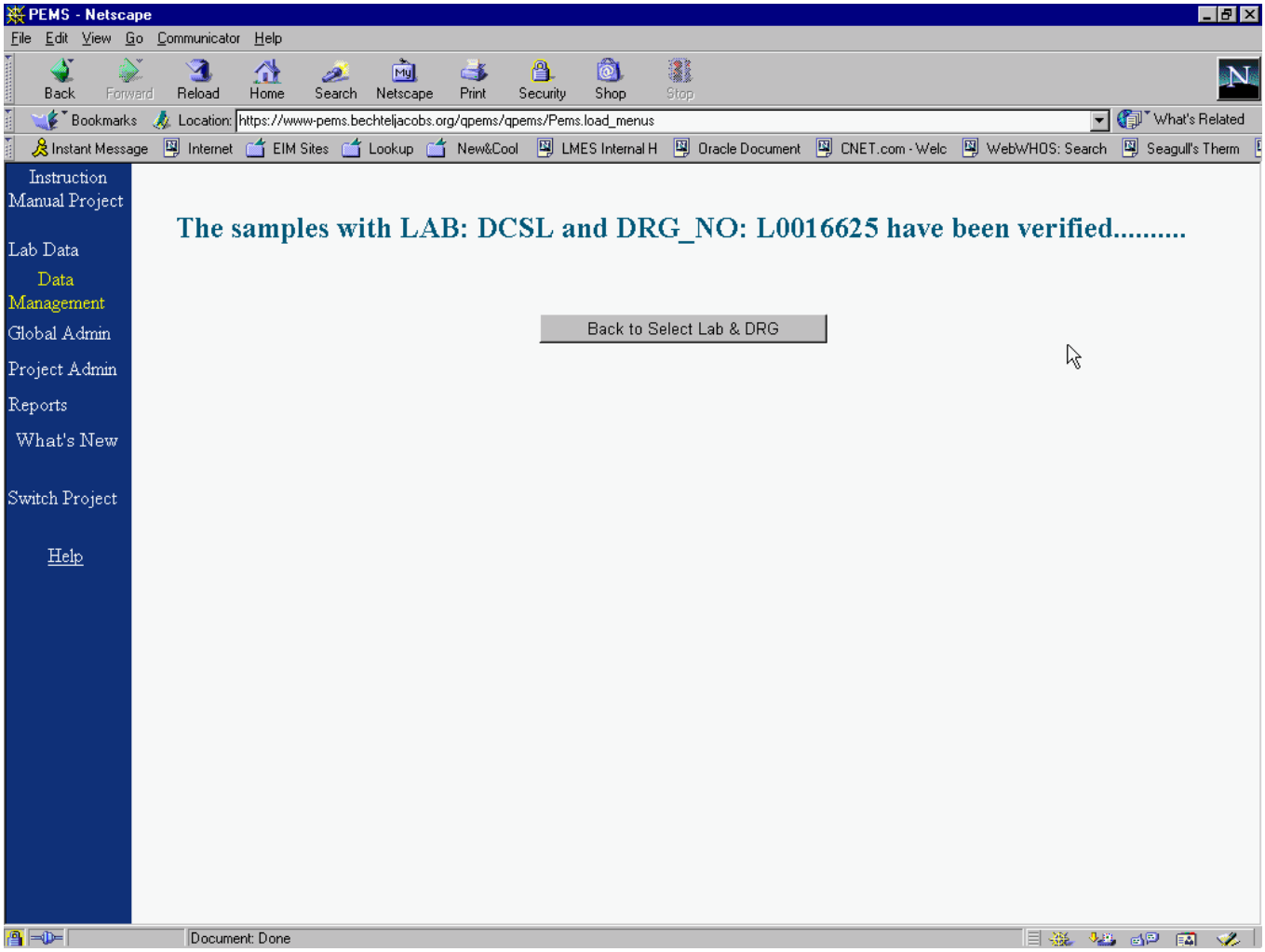

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
The samples with LAB: DCSL and DRG_NO: L0016625 have been verified.....
Back to Select Lab & DRG
Document: Done

Figure 145

The project or data validation user can get a report of validation qualifiers, QC, TIC, and TIR result information. Its purpose is to display the validation information of analytical results and their Reason Codes. This information can be displayed on the screen or downloads the data to a CSV file on the user's PC, which can be opened with Excel (Figure 146).

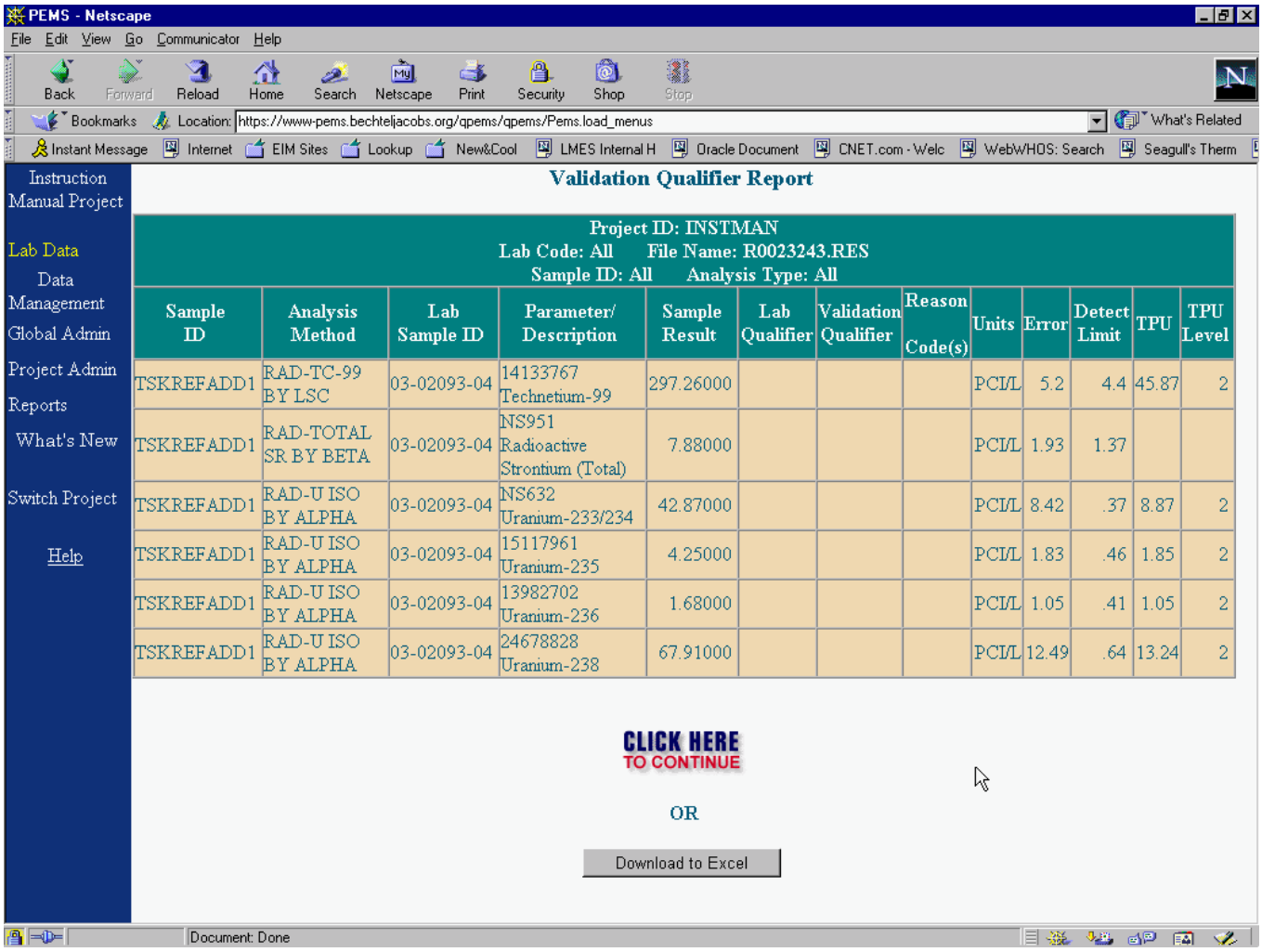


Figure 146

8.0 RTL Review and Generation

8.1 RTL Review

The RTL Review function allows the user to see any gaps in the information to be sent to OREIS (Figure 147). This report performs almost all of the validation that OREIS performs on a received data package.

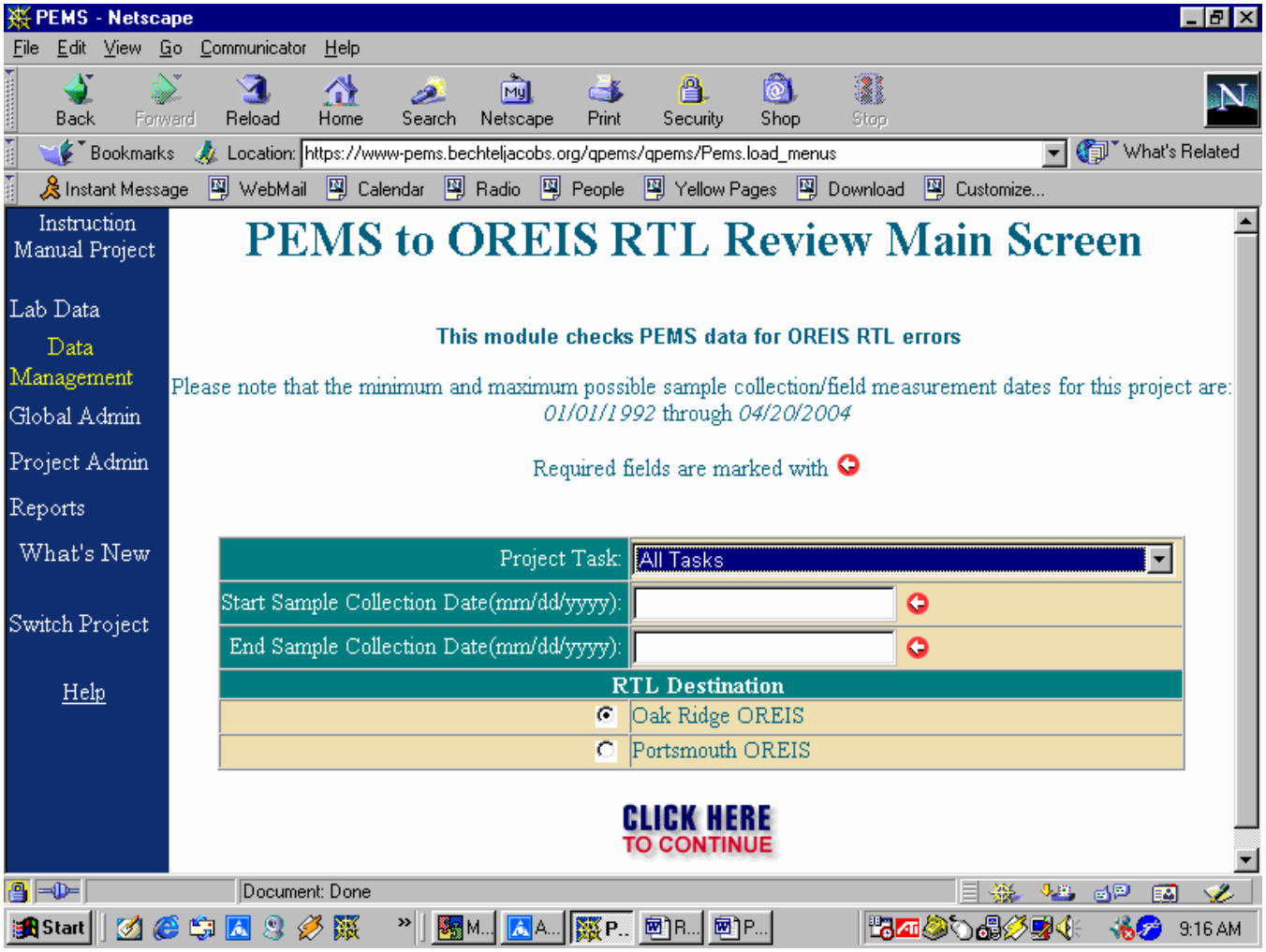


Figure 147

Note the missing data in Figure 148. After missing data is entered into PEMS, the data is ready to send to OREIS.

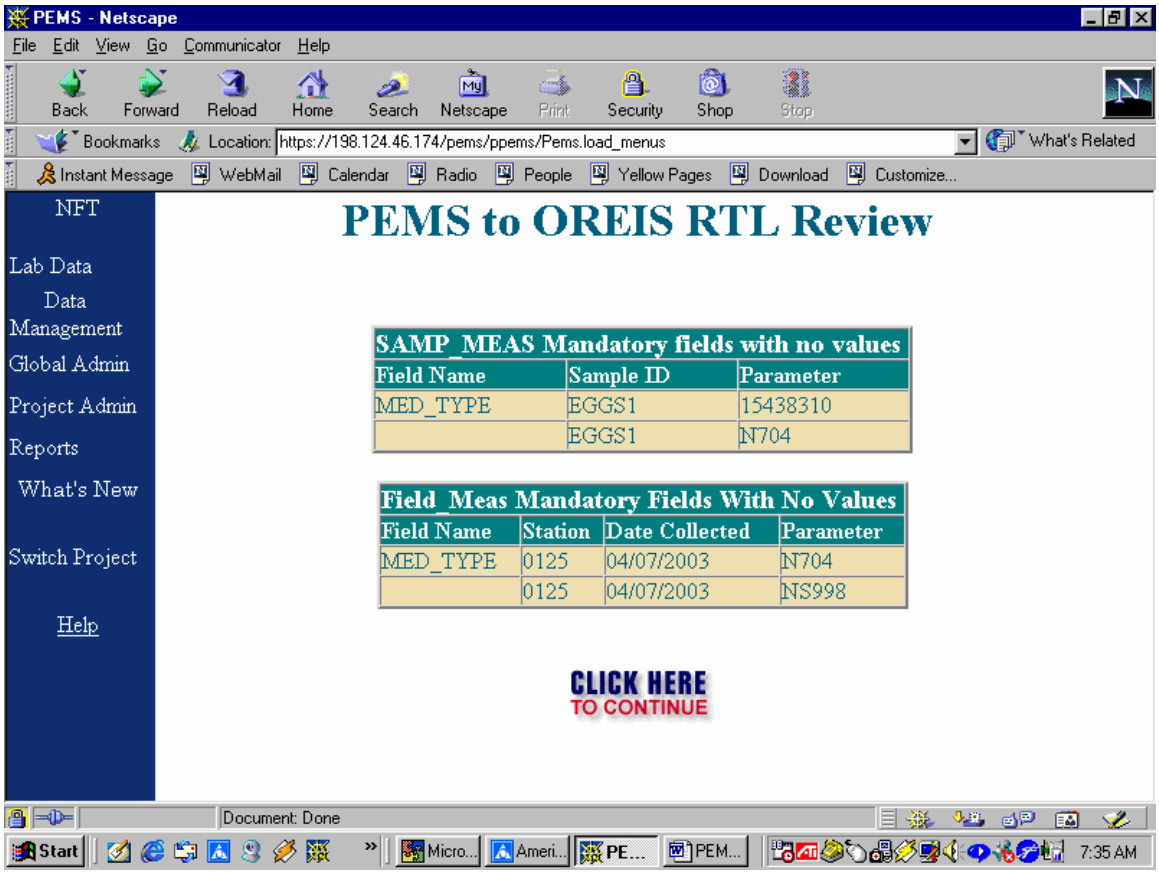


Figure 148

8.2 Send a RTL to OREIS

Follow the instructions on the screen (Figure 149) and complete the 'OREIS Environmental Measurements Data Transmittal' form and return it to OREIS staff.

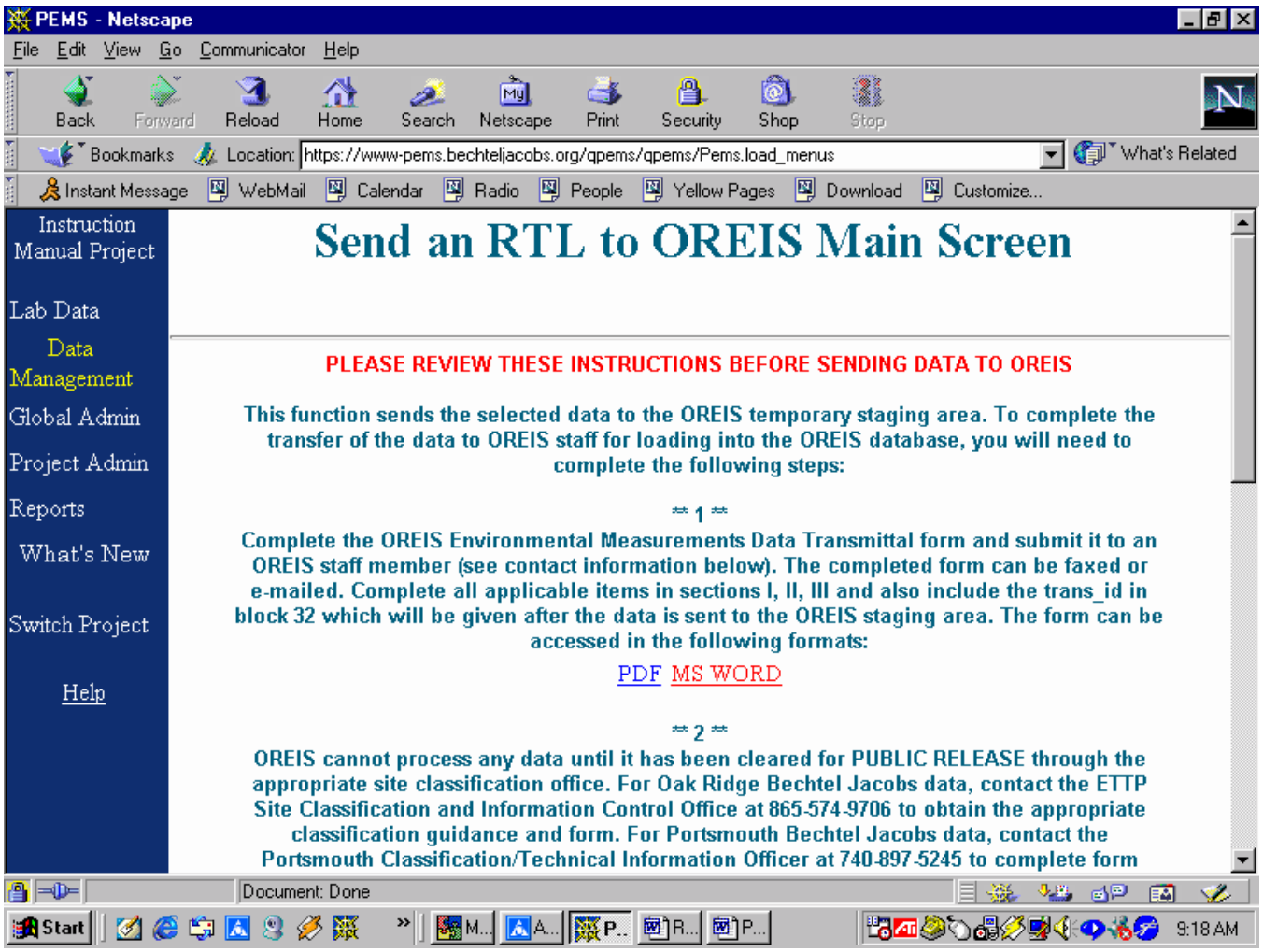


Figure 149

The user selects the date range to be transferred to OREIS as shown in Figure 150.

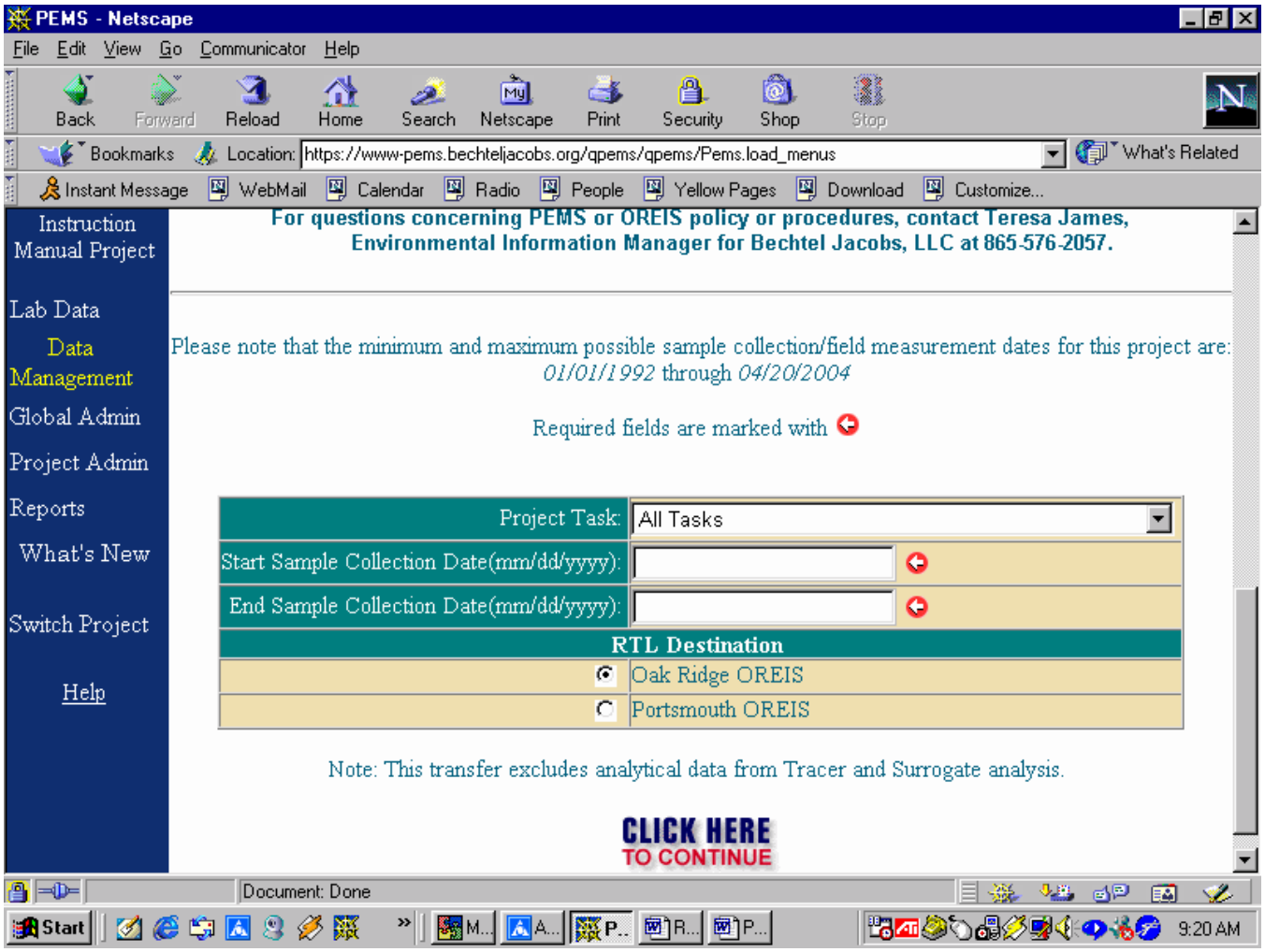


Figure 150

The user selects the date range to be transferred to OREIS. The system will ask the user to confirm the information. (Figure 151).

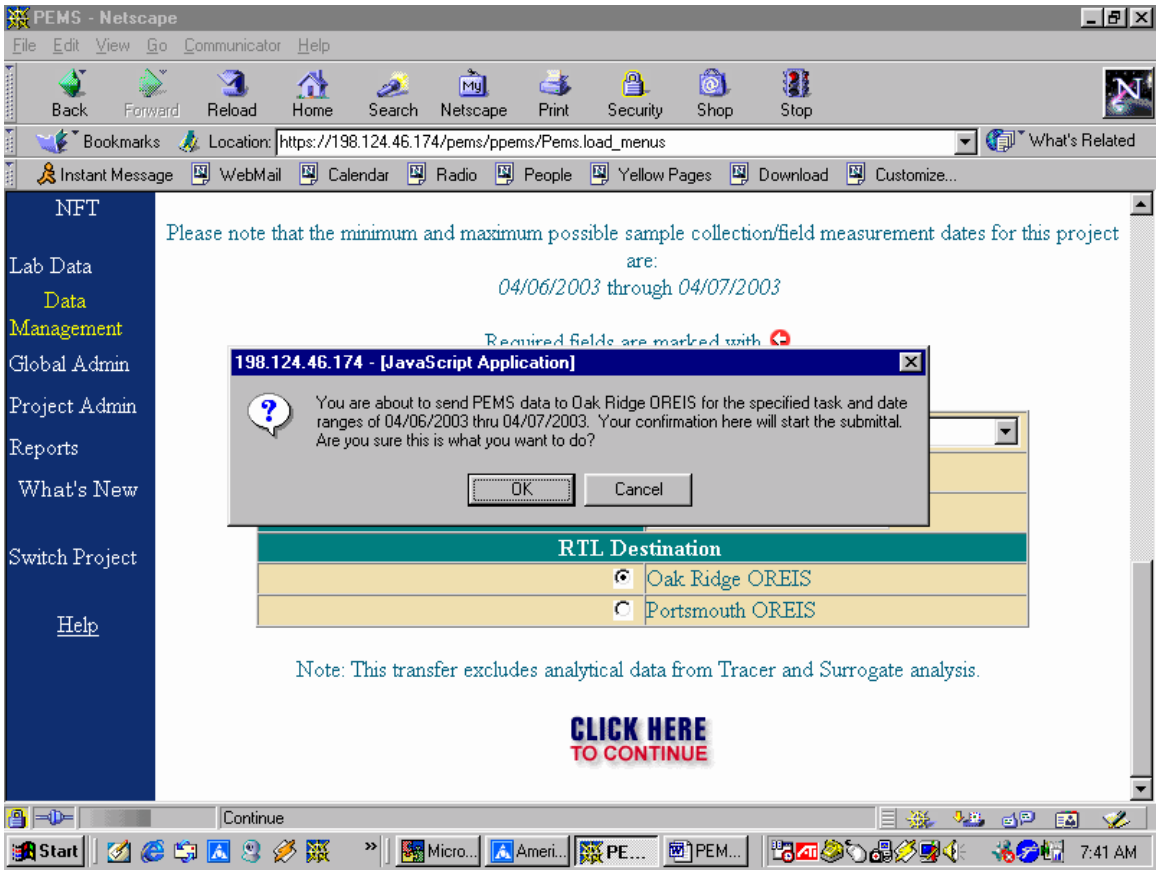


Figure 151

The system will rerun the review application and will check for missing data as shown in Figure 152.

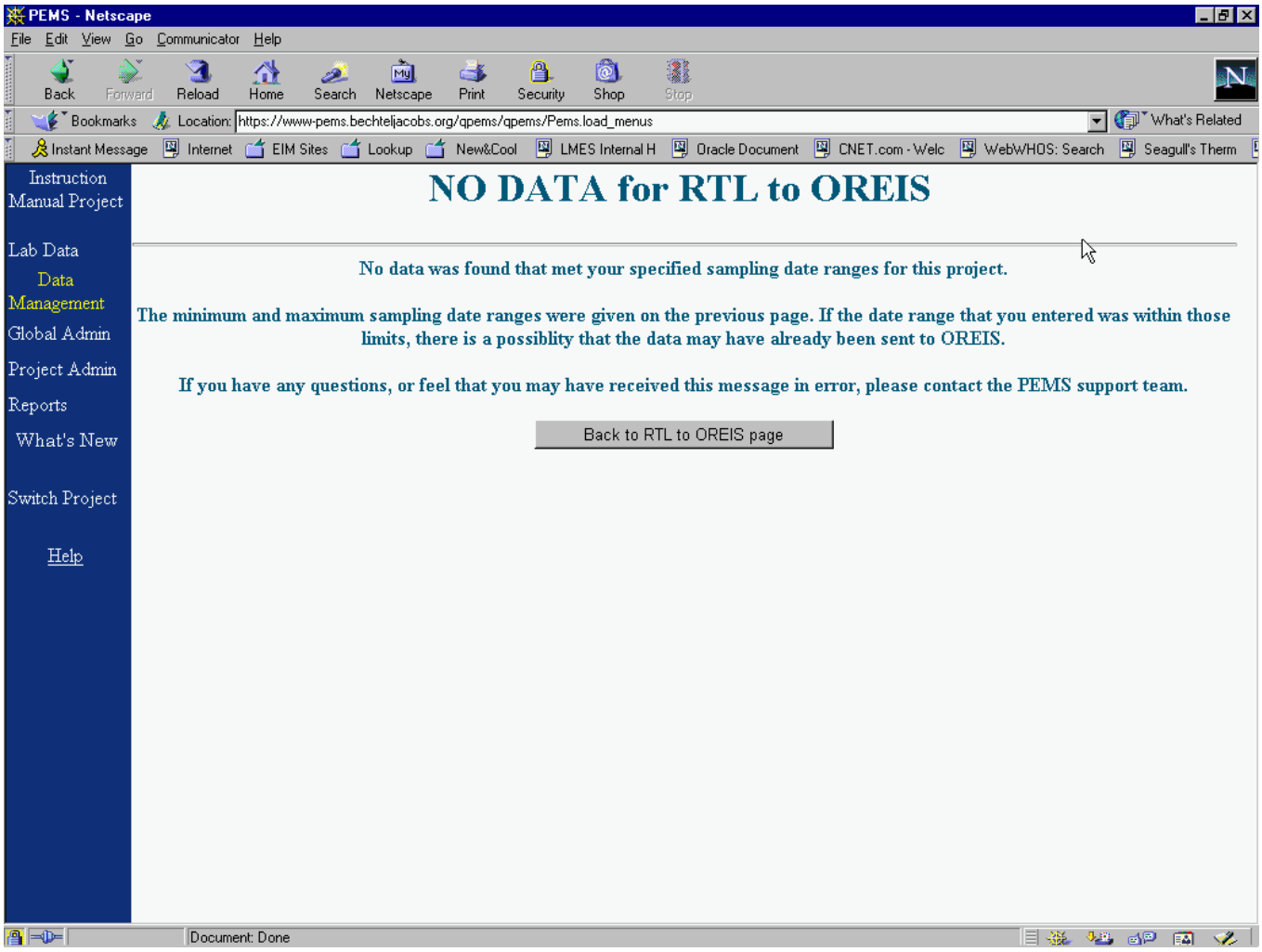


Figure 152

The system will confirm that the data set has been sent to OREIS as shown in Figure 153. At this time the user may download any of the data sets that were sent to OREIS to a PC if desired.

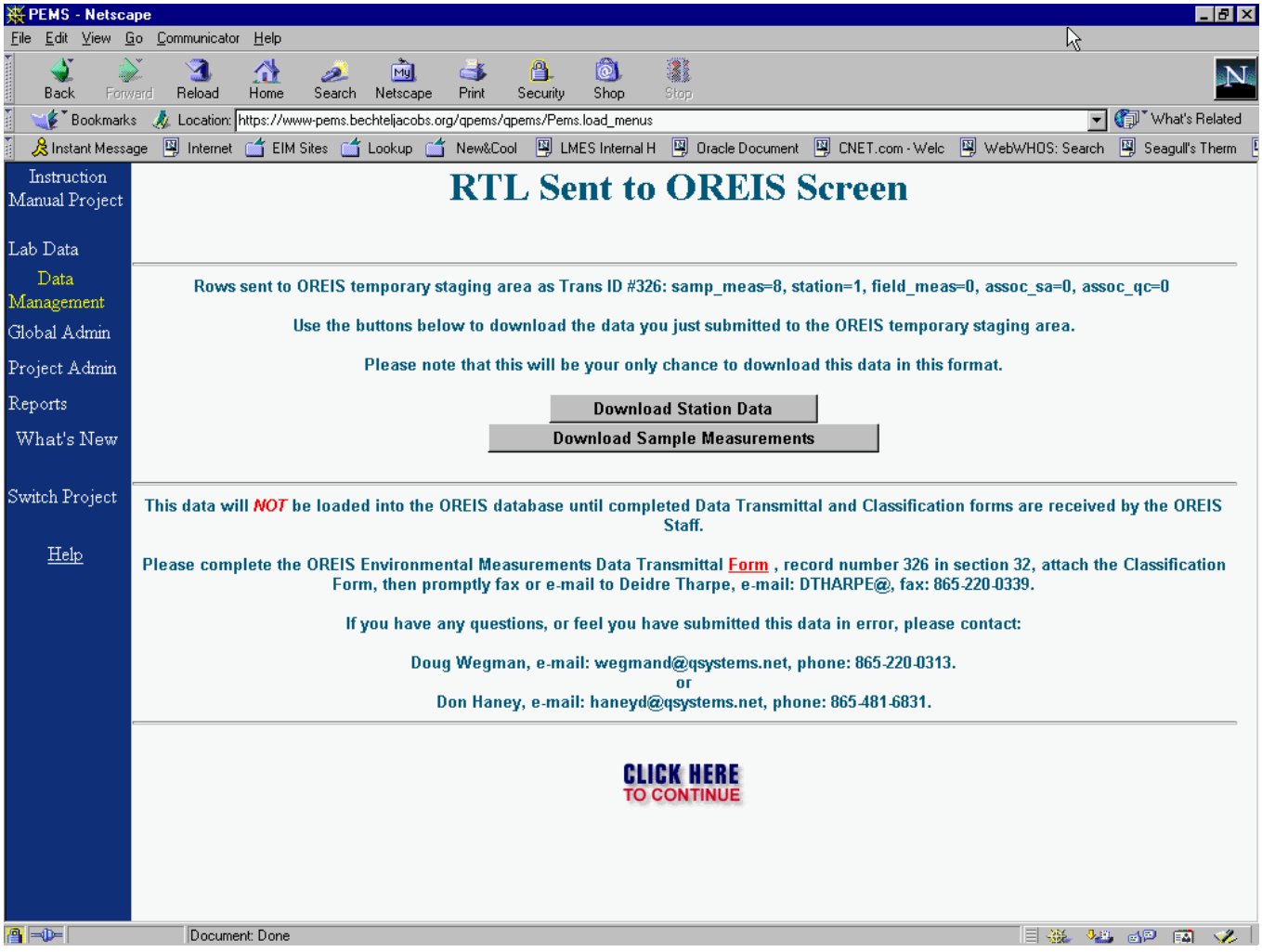


Figure 153

This form must be sent to the OREIS support personnel listed in the instructions.

OREIS Environmental Measurements Data Transmittal

I. CONTACTS

1. Data Custodian/Organization	2. Phone	3. Date
4. Data Generator/Organization	5. Phone	

II. PROJECT INFORMATION

6. Project Name	7. Project Code
8. Date Project Initiated (mm/dd/yy)	9. Date Project Completed (mm/dd/yy)
10. ADS Name	11. ADS Number
12. Project Sponsor ⑤ ER ⑤ EM ⑤ Other (please specify)	13. Project Program

14. Site ⑤ ORNL ⑤ K-25 ⑤ Y-12 ⑤ Paducah ⑤ Portsmouth ⑤ Offsite ⑤ Other (specify)

15. Project Records Location (complete location information for lab books, data packages, QA/QC, etc.)

16. Project Description

III. DATA INFORMATION (attach pages as needed)

17. General Description of Data

18. Data Files	File/Table	# Records	Metadata

19. Data Format ⑥ TXT ⑥ DBF ⑥ XLS ⑥ MDB ⑥ CSV ⑤ Other (specify)

20. Data Transfer Media Description

21. Footnote (brief statement that could be used with tables or graphs)

22. Time Period (beginning yr. - ending yr.)

23. Cautions Associated with Using the Data

24. Complete References to Relevant Reports or Documents

25. Exact Location of Information in Support of this Transmittal (if not included in #15)

IV. OREIS Receiving/Review

26. OREIS Login By (name of OREIS Data Management Staff Member)	27. Phone	28. Date Received	29. Date Acknowledged

30. Comments	31. PROJECT_ID	32. TRANS_ID	33. Document/Data Clearance Form Included

9.0 Utility Functions

9.1 Delete/Rename Sample

For a variety of reasons sample IDs may need to be edited. The Delete/Rename Sample function allows users to delete samples or to change the sample ID (rename) (Figure 154).

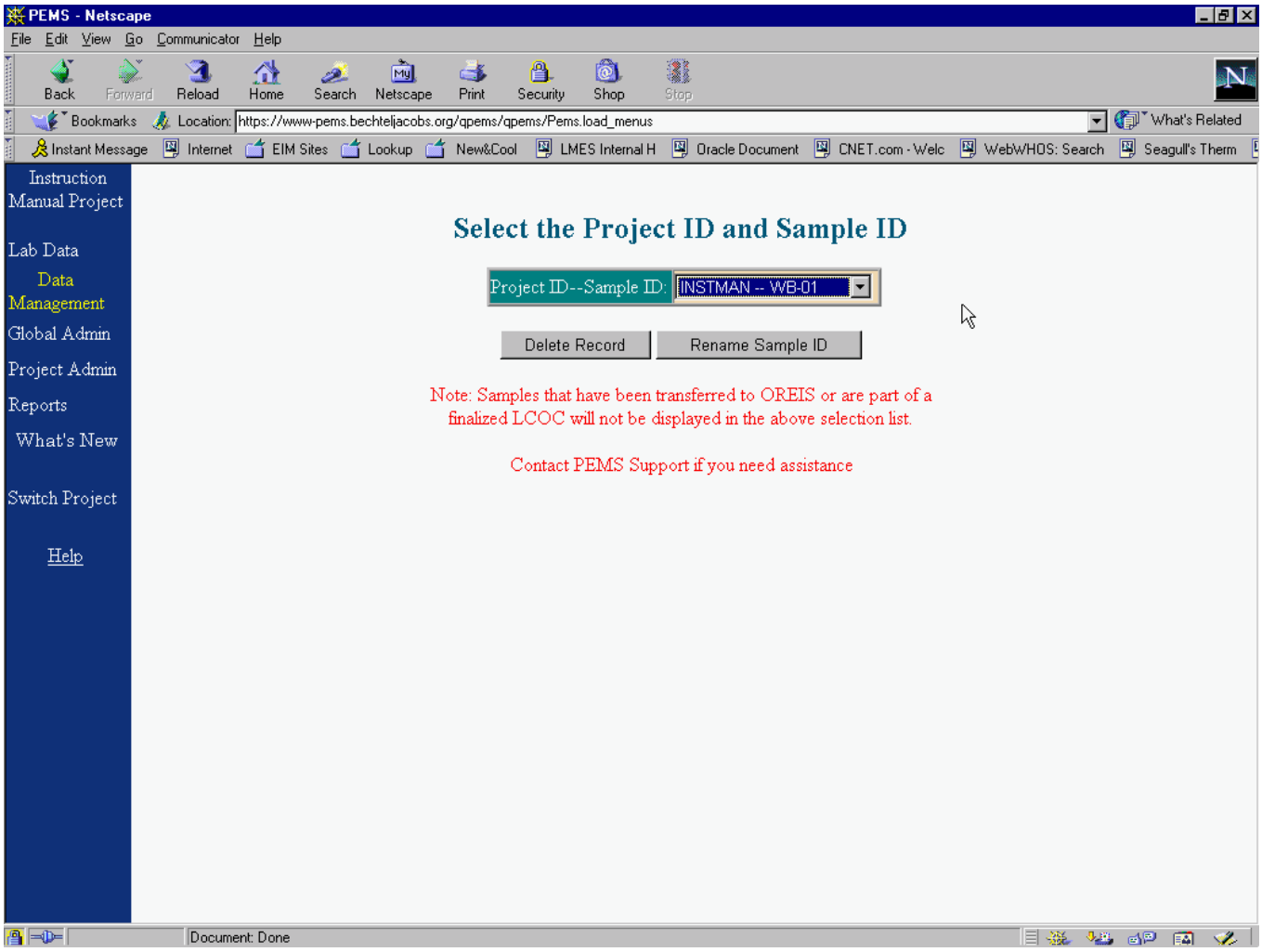


Figure 154

Figures 155 and 156 illustrate renaming a sample.

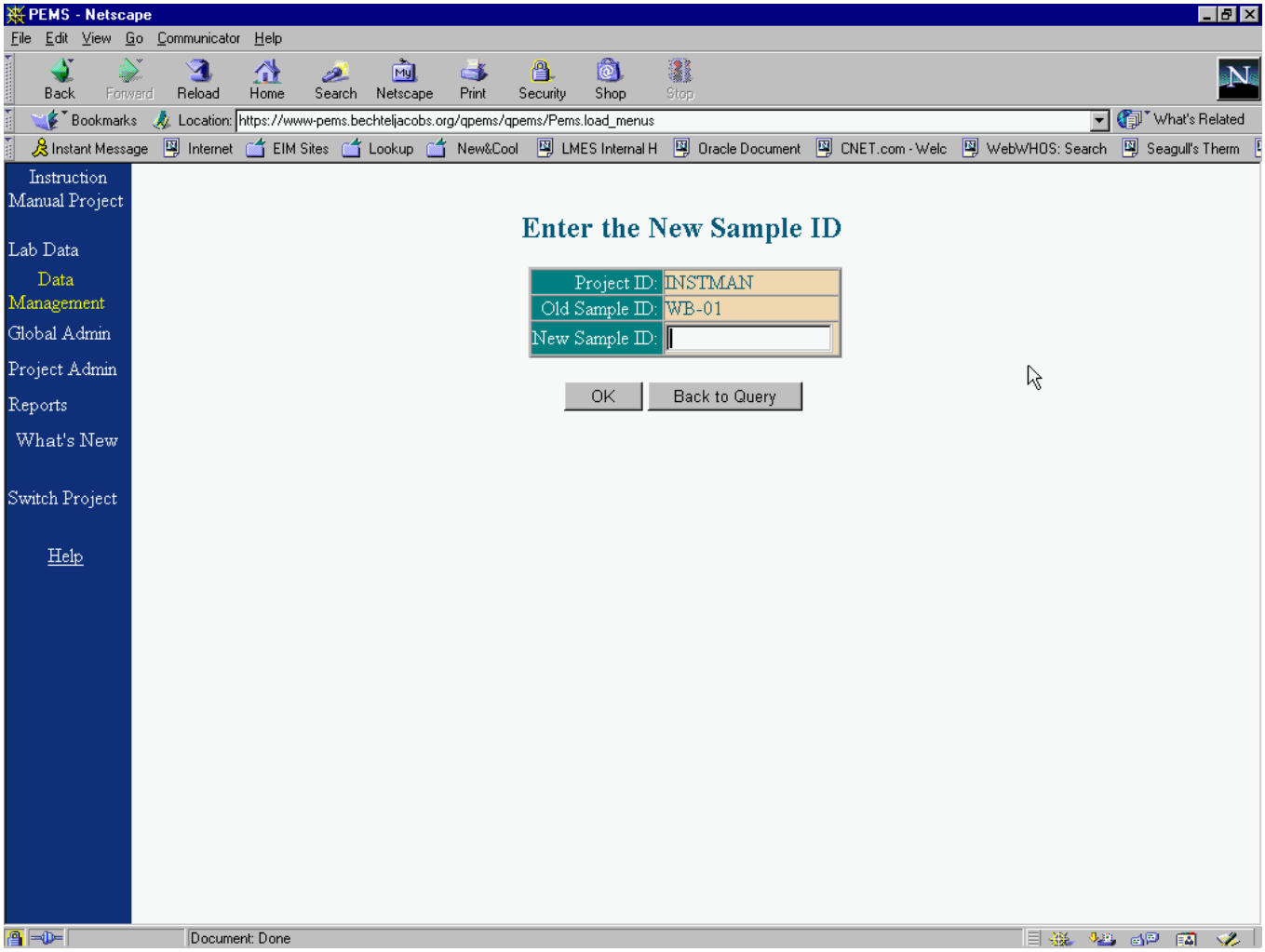


Figure 155

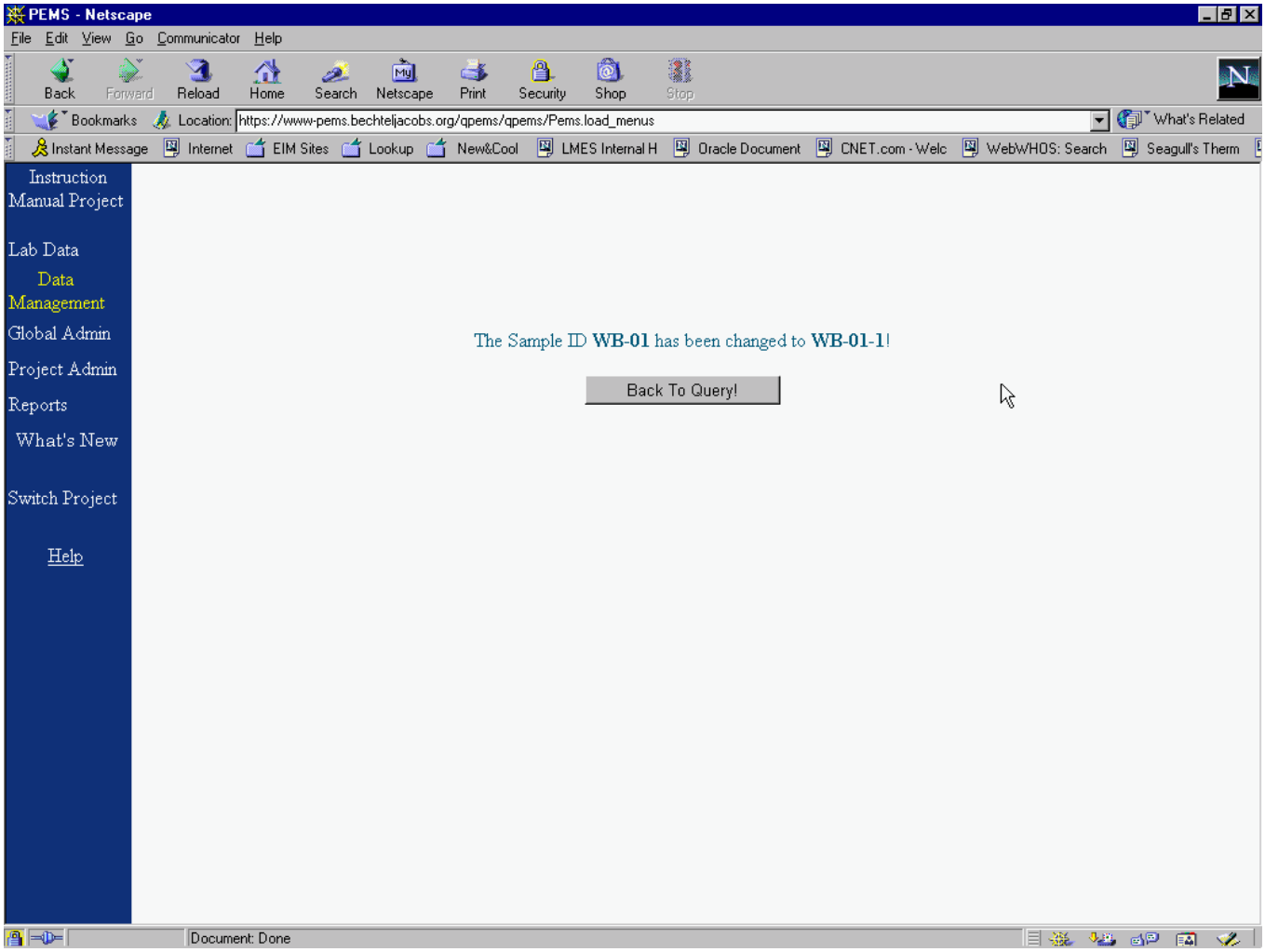

PEMS - Netscape
File Edit View Go Communicator Help
Back Forward Reload Home Search Netscape Print Security Shop Stop
Bookmarks Location: https://www-pems.bechteljacobs.org/qpems/qpems/Pems.load_menus
What's Related
Instant Message Internet EIM Sites Lookup New&Cool LMES Internal H Oracle Document CNET.com - Welc WebWHOS: Search Seagull's Therm
Instruction Manual Project
Lab Data
Data Management
Global Admin
Project Admin
Reports
What's New
Switch Project
Help
The Sample ID WB-01 has been changed to WB-01-1!
Back To Query!
Document: Done

Figure 156

Figure 157 shows the message displayed by PEMS when a sample ID is deleted.

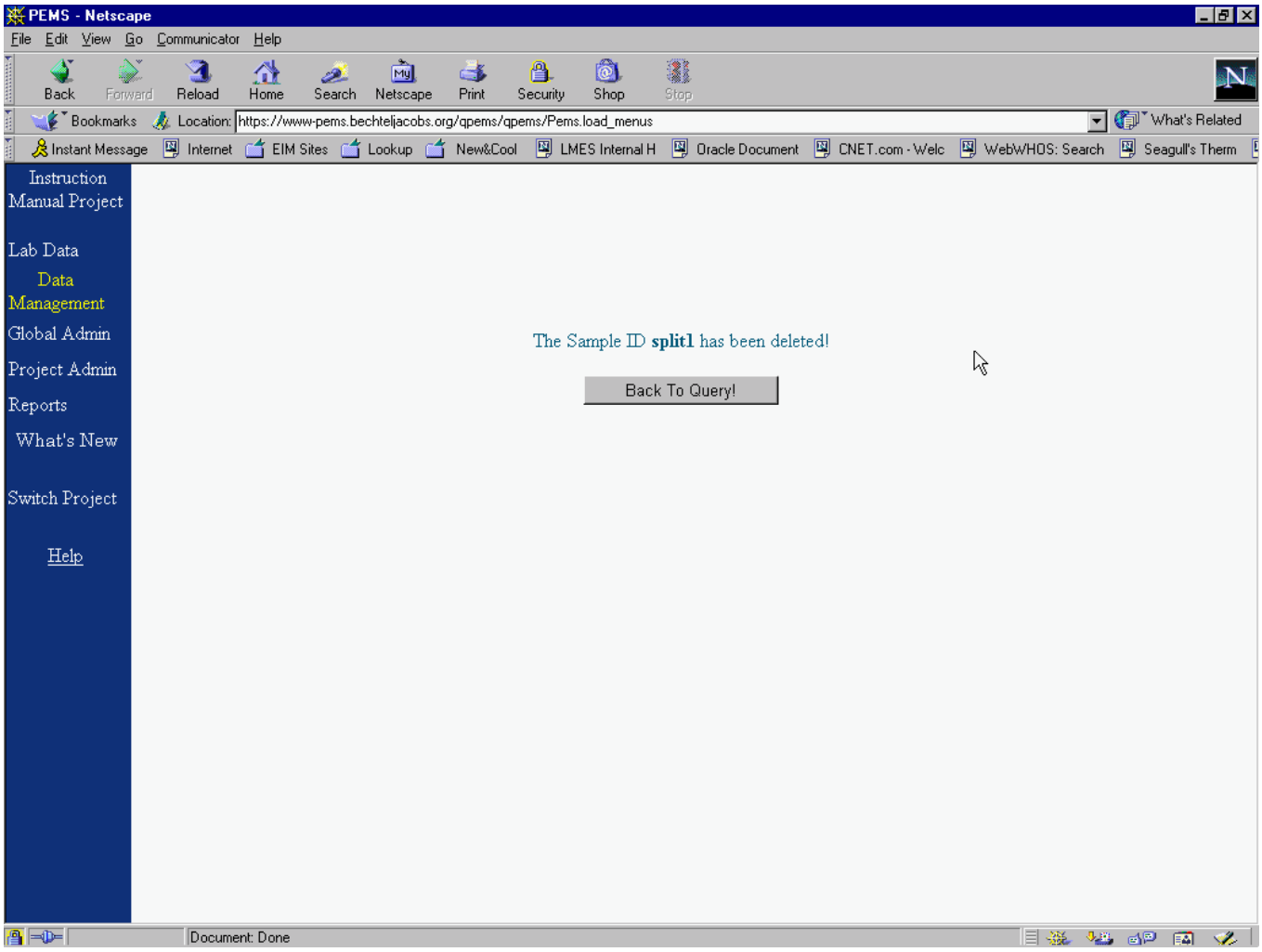


Figure 157

9.2 Change Sample Status

PEMS allows projects the ability to change the status of a sample. A sample can be 'retired' or marked as 'uncollectible' as shown in Figure 158.

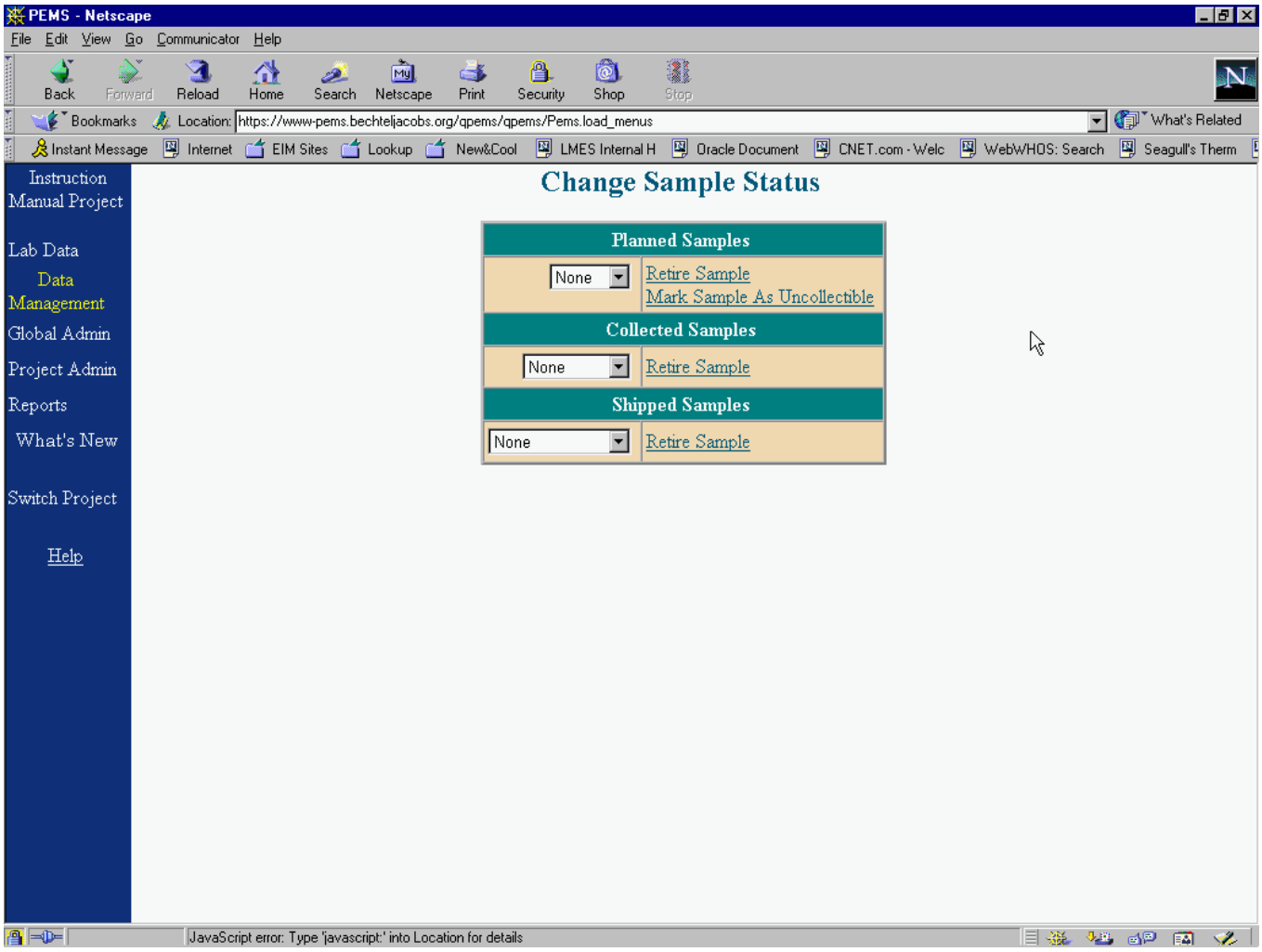


Figure 158

9.3 Change Monitoring Location

Figure 159 shows the screen from which a monitoring location may be changed.

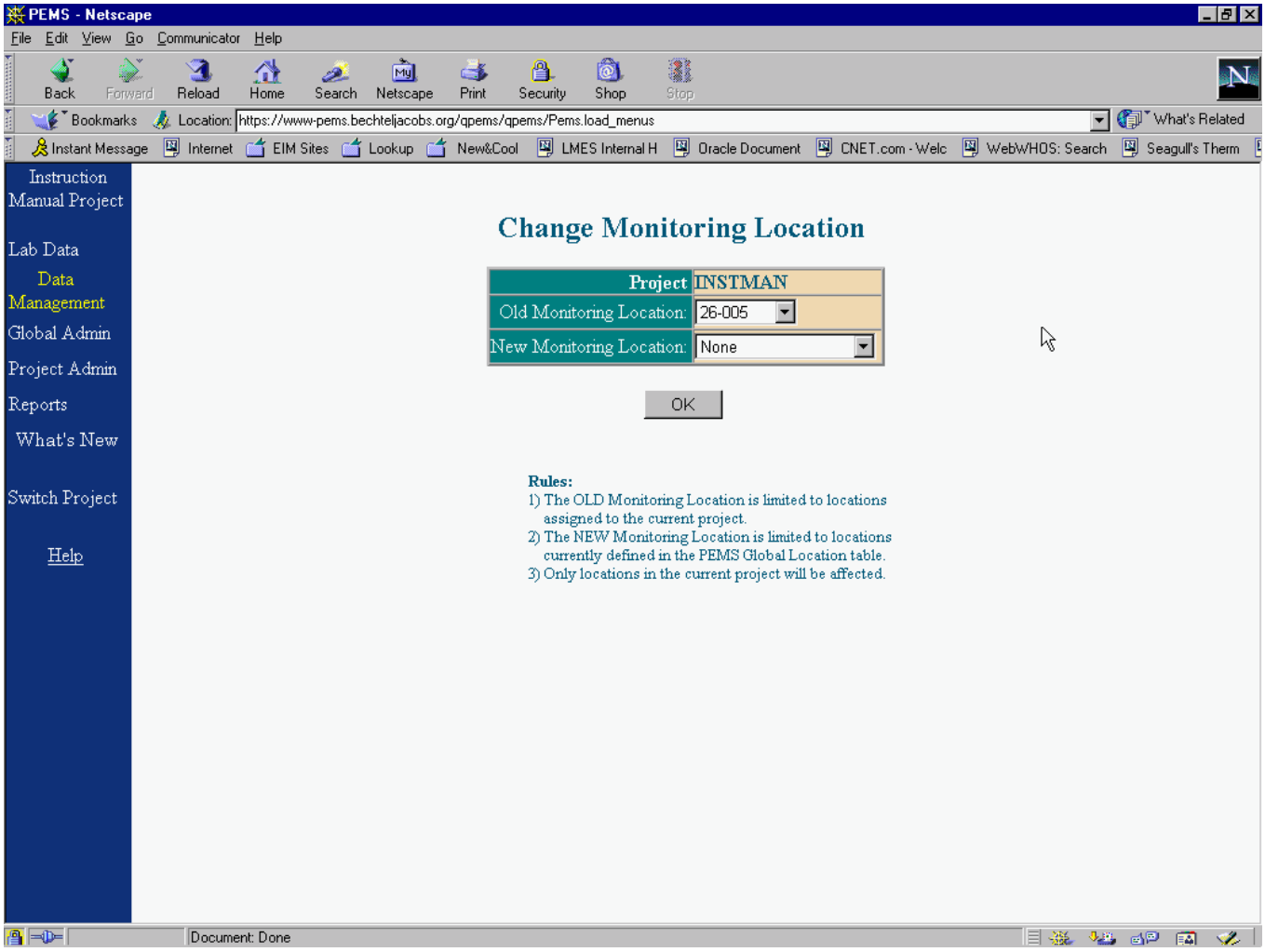


Figure 159

10.0 Reports

Figure 160 displays the Reports menu. A table with a short description of each report follows.

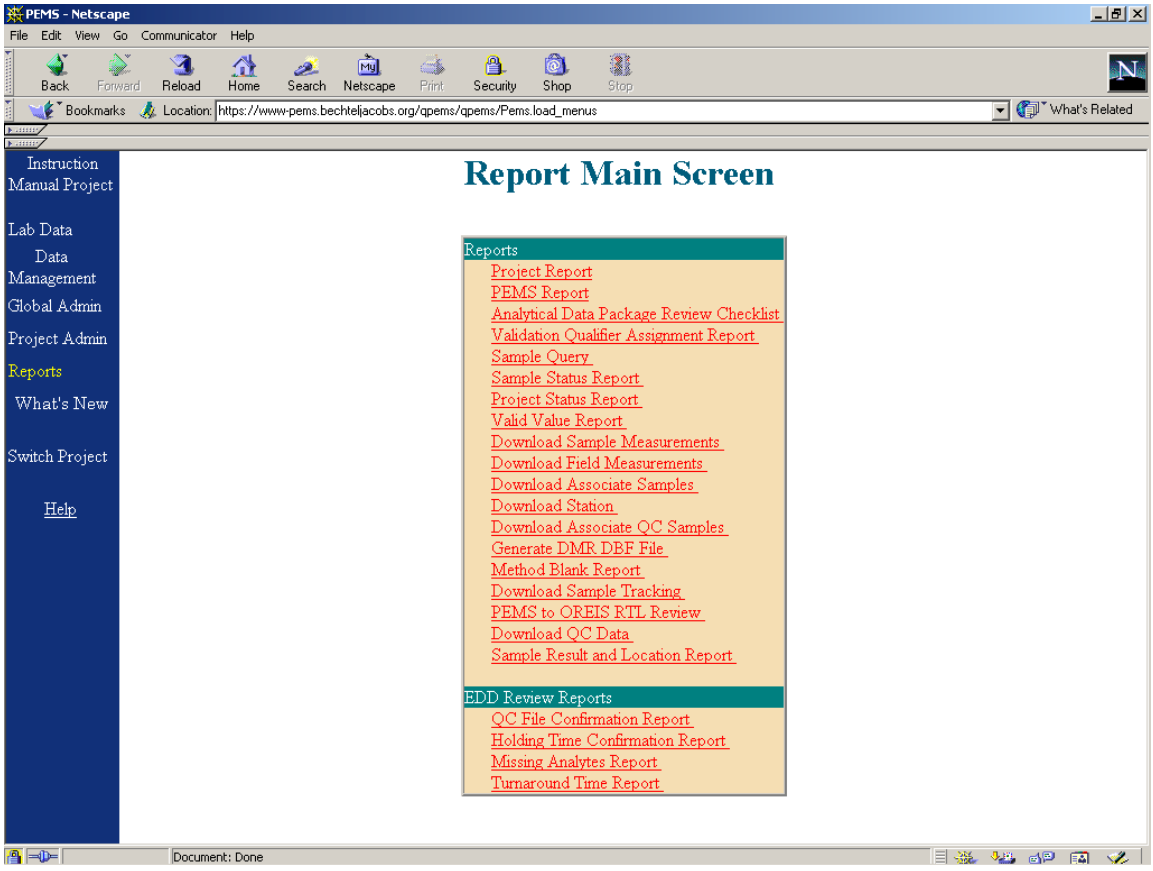


Figure 160

Report Name	Purpose
Project Report	List of projects, description and start date
PEMS Report	By project and list of fields to pick and include
Analytical Data Package Review Checklist	By LCOC from list, can print for validation
Validation Qualifier Assignment Report	By laboratory, file name, sample id and analysis type
Sample Query	By sample id for a project, gives sample information/results
Sample Status	By status code and date range
Project Status Report	By site code
Valid Value Report	Takes the user to Global Administration
Download Sample Measurements	By date range, DRG #, location and task code
Download Field Measurements	By date range, location and task code
Download Associate Samples	
Download Station	Used to check the RTL before sending data to OREIS
Download Associate QC Samples	Download to Excel reg. samples with QC
Generate DMR DBF File	By month and year
Method Blank Report	By pick list of file names
Download Sample Tracking	By date range, pick list of projects
PEMS to OREIS RTL Review	By Task Code and Sample Collection Date range, perform OREIS checks on RTL data
Download QC Data	By Analysis Date range, DRG Number, Sample Delivery Group and/or Batch Number, download QC analytical result data (LCS, Method Blank, etc.)
Sample Result and Location Report	By Sample Collection Date range, SOW, DRG Number, Monitoring Location, and/or Task Code, download a user-defined set of data fields for TIC, TIR and regular analytical results
EDD Review Reports	Purpose
QC File Confirmation Report	QC files for current or all projects
Holding Time Confirmation Report	By project, pulled from Tracker
Missing Analytes Report	By parameter analysis group
Turnaround Time Report	By SOW, pulled from Tracker